ADOT Pedestrian Safety Action Plan

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Working Paper No. 1 FINAL01
Profile of Pedestrian Safety in Arizona

ADOT MPD Task Assignment 04-08

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LIST OF EXHIBITS

1.0 INTRODUCTION

1.1 Problem and Need Statement

In 2005, Arizona ranked 5th among states in pedestrian fatalities per 100,000 residents, with 164 pedestrians fatalities on Arizona's roadways—a nearly 30 percent increase from 2003 levels. To reduce the number of pedestrian crashes throughout Arizona, the state of Arizona is participating with the Federal Highway Administration (FHWA) as one of fourteen "focus states[1]" receiving technical assistance to reduce pedestrian crashes, fatalities, and injuries. The Arizona Department of Transportation (ADOT) is leading the initiative in coordination with FHWA Arizona Division Office and the Arizona Governor's Office of Highway Safety.

Four cities with the highest pedestrian fatality counts were also selected to participate with the FHWA. The City of Phoenix is one of four "focus cities[2]" with the highest pedestrian fatality counts.

1.2 Study Goals and Objectives

The purpose of the ADOT Pedestrian Safety Action Plan is to identify action items, improvements or programs that upon implementation will reduce the number and rate of pedestrian crashes, fatalities, and injuries on Arizona's state highways. The Plan will establish a framework and identify practical and achievable strategies to improve pedestrian safety on Arizona's state highways.

The Plan includes stakeholder input, problem identification, and prioritization of solutions. The success of the Plan will be gauged by its effectiveness in reducing the number and rate of pedestrian crashes on Arizona's state highways.

Specifically, the Pedestrian Safety Action Plan will include:

- Summary profile of pedestrian safety in Arizona;
- Pedestrian safety goals and objectives for ADOT;
- Procedure to identify promising pedestrian safety countermeasures projects and programs;
- High-priority pedestrian safety projects for the state highways;
- Prioritization system to rank competing projects;
- Cost estimates for the high-priority projects;
- Assessment of the funding gap for safety projects on the state highways;
- Potential funding alternatives for pedestrian infrastructure; and
- Safety countermeasures, projects, and programs to meet pedestrian safety goals and objectives.

The ADOT Pedestrian Safety Action Plan will be developed, to the extent defined in the scope of work, based on guidance provided in the FHWA Report entitled *How to Develop a Pedestrian Safety Action Plan* and the Arizona Supplement that was completed in April 2007 by the ADOT Highway Enhancements for Safety Team.

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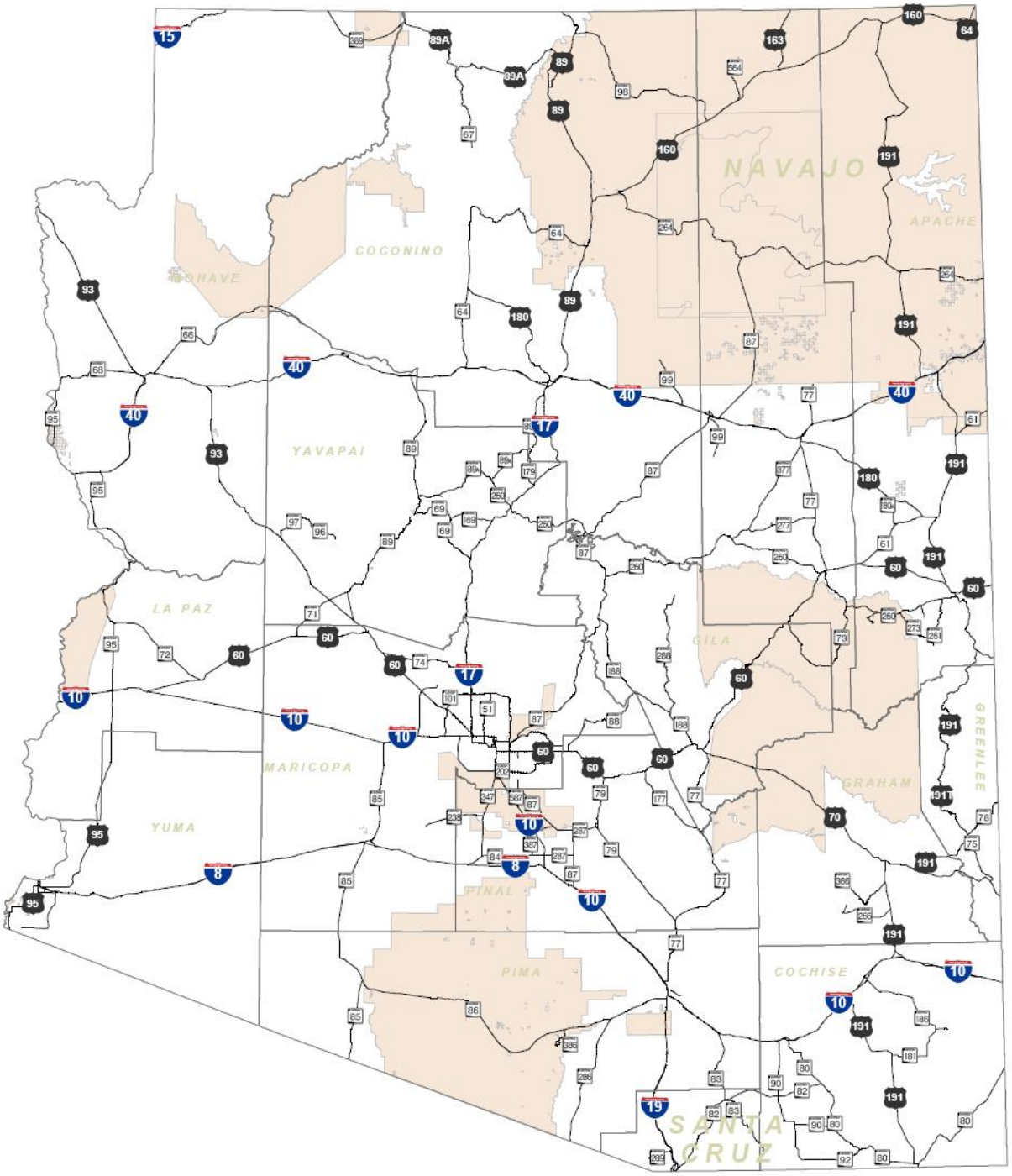
[1] States for FY2008 are Arizona, California, District of Columbia, Florida, Georgia, Hawaii, Illinois, Nevada, New Jersey, New Mexico, New York, North Carolina, Pennsylvania, and Texas. The 14 "focus states" were selected if they had at least 150 pedestrian fatalities in 2005, or a pedestrian fatality rate per 100,000 population of 2.5 or greater.

[2] Four cities with the highest pedestrian fatality count are Chicago, Los Angeles, New York City, Phoenix

1.3 Study Area

The study area for the ADOT Pedestrian Safety Action Plan consists of roadways included in the Arizona state highway system, including intersections of state highways with major arterial streets, such as freeway ramp termini and major arterial streets that intersect with other state highways. **Exhibit 1-1** displays roadways included in Arizona's state highway system.

Exhibit 1-1 – Study Area



1.4 Working Paper 1 Objectives

The objective of Working Paper 1 is to summarize existing pedestrian safety conditions on the state highways. Input to Working Paper No. 1 comes from stakeholders (jurisdictions, agencies, tribes) and general public surveys and questionnaires, as well as analysis of available crash data.
Working Paper 1 is organized into the following chapters:

1. Introduction – Project Overview (this chapter)
2. Existing Data on Walking – This chapter provides an overview of existing national statistics on pedestrians based on the Census 2000 Journey to Work Data and the National Household Travel Survey.
3. National Crash Trends – This chapter provides an overview of national fatal pedestrian crash statistics.
4. Analysis of Arizona Pedestrian Crash Data – This chapter presents the results of an analysis of five years of Arizona pedestrian crash data. Chapter 4 also includes an introduction to interviews that were completed with various agencies and jurisdictions.
5. Pedestrian Safety Surveys – This chapter summarizes the results of pedestrian safety surveys that were distributed to the general public and a separate survey that was distributed to staff of public agencies.
6. Current Level of Pedestrian Planning within State, Regional and Local Public Agencies – Chapter 6 includes a review of pedestrian planning activities conducted or underway by agencies and jurisdictions throughout Arizona.
7. Summary of Findings – Key findings are summarized.

2.0 SUMMARY OF AVAILABLE DATA ON WALKING

This chapter summarizes available statistical information on walking. These statistics were obtained from the references listed at the end of this chapter.

2.1 Census 2000 Data on Journey to Work Data

The 2000 United States (U.S.) Census contains journey to work data for workers 16 years and older, and includes information about the transportation mode utilized to arrive at work. Nationwide, among the 128.3 million workers in the United States, 2.9 percent reported that they walk to work. This represented a decrease from the 1990 U.S. Census, in which 3.9 percent of workers age 16 or older reported that they typically walk to work.

2000 U.S. Census data for Arizona indicates that 2.6 percent of the 2,210,395 workers, age 16 or older, reported that they typically walk to work. In the publication, *Journey to Work, 2000,* the Flagstaff area was noted as having a relatively high proportion of workers who reported that they walk to work - 7.5 percent of a total estimated workforce of 56,904. Flagstaff was noted as being one of the top 10 metropolitan statistical areas (MSA) in the country, showing a high percentage of workers utilizing walking as a mode of transportation to work. **Exhibit 2-1** shows the proportion of workers who walked to work in 2000 and 2006 in other metropolitan statistical areas in Arizona. Consistent with national trends, the percentage of work trips made by walking in Arizona generally decreased from 2000 to 2006, with exception to the Tucson MSA.

Exhibit 2-1 – Journey to Work, 2000, Arizona MSAs

Year	Number Walked to Work	Percent of Total Travelers to Work
Flagstaff MSA		
2000	4,246	7.5 %
2006	3,526	5.9 %
Phoenix MSA		
2000	30,577	2.0 %
2006	34,141	1.8 %
Prescott MSA		
2000	n/a	n/a
2006	2,016	2.3 %
Sierra Vista- Douglas MSA		
2000	n/a	n/a
2006	2,836	5.8%
Tucson MSA		
2000	9,548	2.6 %
2006	13,115	3.1 %
Yuma MSA		
2000	2,234	4.3 %
2006	2,450	3.6 %

Exhibit 2-1 – Journey to Work, 2000, Arizona MSAs (continued)

Year	Number Walked to Work	Percent of Total Travelers to Work
Kingman City(1)		
2000	326	2.4 %
2006	163	0.65 %

(1) In order to make Kingman City comparable to the MSA data, the Kingman City and New Kingman-Butler designated place tables were combined for the year 2000. A designated place is an urbanized area that is not necessarily incorporated. The 2006 data is from the Kingman Unified School District, since that was the only available 2006 data available for the Kingman area.

2.2 National Household Travel Survey

The National Household Travel Survey (NHTS), sponsored by the Bureau of Transportation Statistics (BTS) and the Federal Highway Administration (FHWA), collected data on both long-distance and local travel by the American public. The survey gathered trip-related data such as mode of transportation, duration, distance and purpose of the trip.

The 2001-2002 National Household Travel Survey updated information gathered previously by two travel surveys—the Nationwide Personal Transportation Survey (NPTS), which was conducted in 1969, 1977, 1983, 1990, and 1995, and the American Travel Survey (ATS) which was conducted in 1977 and 1995. The results of the NHTS are summarized in the publication, *Summary of Travel Trends, 2001 National Household Travel Survey*. **Exhibit 2-2** displays information contained in Table 9 of this publication which summarizes modes of travel for the 2001-2002 National Household Travel Survey, as well as previous travel surveys conducted in 1990 and 1995.

As listed in **Exhibit 2-2**, at a national level in 2001, 14.7 percent of social and recreational purpose trips were completed by walking.

Exhibit 2-2 – National Household Travel Survey
Total Person Trips by Walking and Trip Purpose

	Total	To or From Work	Work Related Business	Family and Personal Business	School or Church	Social and Recreational	Other
1990 Adj.	7.2 %	4.0 %	4.4 %	5.6 %	12.8 %	9.9 %	13.2 %
1995	5.4 %	2.3 %	5.0 %	8.8 %	7.3 %	7.6 %	7.6 %
2001	8.7 %	2.8 %	4.2 %	7.0 %	9.3 %	14.7 %	15.3 %

Source: Summary of Travel Trends, 2001, National Household Travel Survey, Table 9

The Thunderhead Alliance for Biking and Walking, a national coalition of state and local bicycle and pedestrian advocacy organizations, compiled walking statistics from the National Household Travel Survey, American Community Survey (2005), and the Fatality Analysis Report System (2003 – 2005). **Exhibit 2-3** reports statistics as compiled by the Thunderhead Alliance. As shown in **Exhibit 2-3,** Walking accounts for 9.3% of all trips in Arizona.

Exhibit 2-3 – Walking & Pedestrian Safety Status by State

State	Trips to Work			Estimated mode share for all trips	Reported pedestrian fatalities	Pedestrian fatality rate per 10,000 people	Percent of all traffic fatalities that are pedestrians	% of Pedestrian Fatalities	
	% of Trips by foot	% women	% men					Under age 16	Over age 60
Arizona	2.1 %	41 %	59 %	9.3 %	136	2.8	12	7	13
National Mean	2.7	45	55	8.7	95.3	2.2	11	9	20
National Median	2.5	44	56	7.3	54.3	1.8	9	8	20

Sources: American Community Survey, (2005), National Household Travel Survey (2001-2002), Fatality Analysis Reporting System (2003-2005)

(1) Mean value reported is from NHTS nationwide data;

(2) All fatality data is based on the 3-year average number of fatalities from 2003-2005;

(3) Pedestrian fatality rate was calculated by dividing the total number of walking trips (using NHTS estimates) by the 3-year of pedestrian fatalities, this value was multiplied by 10,000 to represent fatalities per 10,000 people;

(4) All averages are weighted by population or take into account the sums from all states

2.3 Chapter 2 Sources

Hu,Patricia, and Reuscher, Timothy. (2004). Summary of Travel Trends, 2001 National Household Travel Survey, Federal Highway Administration, U.S. Department of Transportation, December.

Reschovsky, Clara. (2004). Journey to Work 2000, Census 2000 Brief, US Census Bureau.

Thunderhead Alliance (2007). Bicycling and Walking in the U.S.: Benchmarking Report 2007, Chapter 4, Current Status of Walking. Available on-line at http://thunderheadalliance.org/pdf/benchmarking/4-Current_Status_of_Walking.pdf, p. 38)

U.S. Census Bureau. (2006). 2006 American Community Survey, Detailed Tables: Means of Transportation to Work by Travel Time to Work- Workers 16 years and over who did not work at home (Table B08134).

U.S. Census Bureau. (2006). 2006 American Community Survey, Detailed Tables: Means of Transportation to Work- Workers 16 years and over (Table B08301).

U.S. Census Bureau. (2000). 2000 Census: Summary File 3: Means of Transportation to Work for Workers 16+ Years (Table P30).

U.S. Census Bureau. (2000). 2000 Census: Summary File 3: Travel Time to Work by Means of Transportation to Work for Workers 16+ Years Who Did Not Work at Home (Table P32).

3.0 NATIONAL AND ARIZONA PEDESTRIAN CRASH TRENDS

This chapter summarizes characteristics of fatal pedestrian crashes on a nationwide basis, as well as a statewide basis as summarized in:

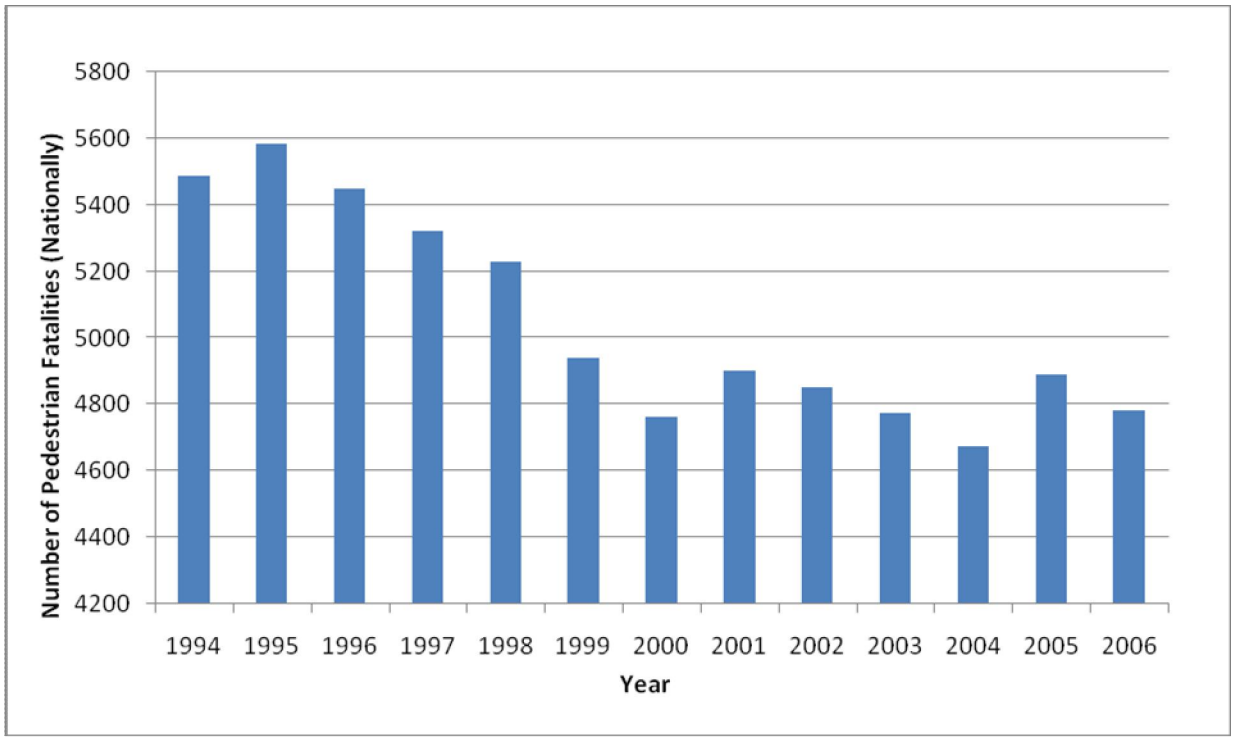
- *Fatality Analysis Reporting System* (2006): The FARS contains data on fatal traffic crashes within the 50 States, the District of Columbia, and Puerto Rico. To be included in FARS, a crash must involve a motor vehicle travelling on a road customarily open to the public and result in the death of a person (occupant of a vehicle or a non-occupant) within 30 days of the crash.
- The *2005 Traffic Safety Facts:* Prepared by the National Highway Traffic Safety Administration (NHTSA), Traffic Safety Facts is a compilation of motor vehicle crash data compiled from FARS data and the General Estimates System (GES)..
- Reports entitled *Pedestrian Roadway Fatalities, Analysis of Pedestrian Fatalities* and *A Review of Pedestrian Safety Research in the United States and Abroad* provided additional pedestrian crash data statistics based on 2001 and 2002 data.
- The *Arizona Motor Crash Facts, 2005:* This document, prepared by the Arizona Department of Transportation, includes a summary of pedestrian crashes in Arizona.
- *Arizona Strategic Highway Safety Plan:* The Plan identifies emphasis areas related to motor crashes based on analysis of 2001 to 2005 data. Several of the identified emphasis areas are related to pedestrian crashes, namely speeding, impaired driving, lane departure, and intersection crashes.
- *Arizona Department of Transportation, Pedestrian Crash Data, 2002 to 2006:* Crash data was obtained from the Arizona Department of Transportation for the reporting period January 1, 2002 to December 31, 2006. Detailed analysis of this crash data is presented in Chapter 4 of this working paper.

The statistical summaries were drawn from the above cited sources of data:

3.1 Overview / General Trends

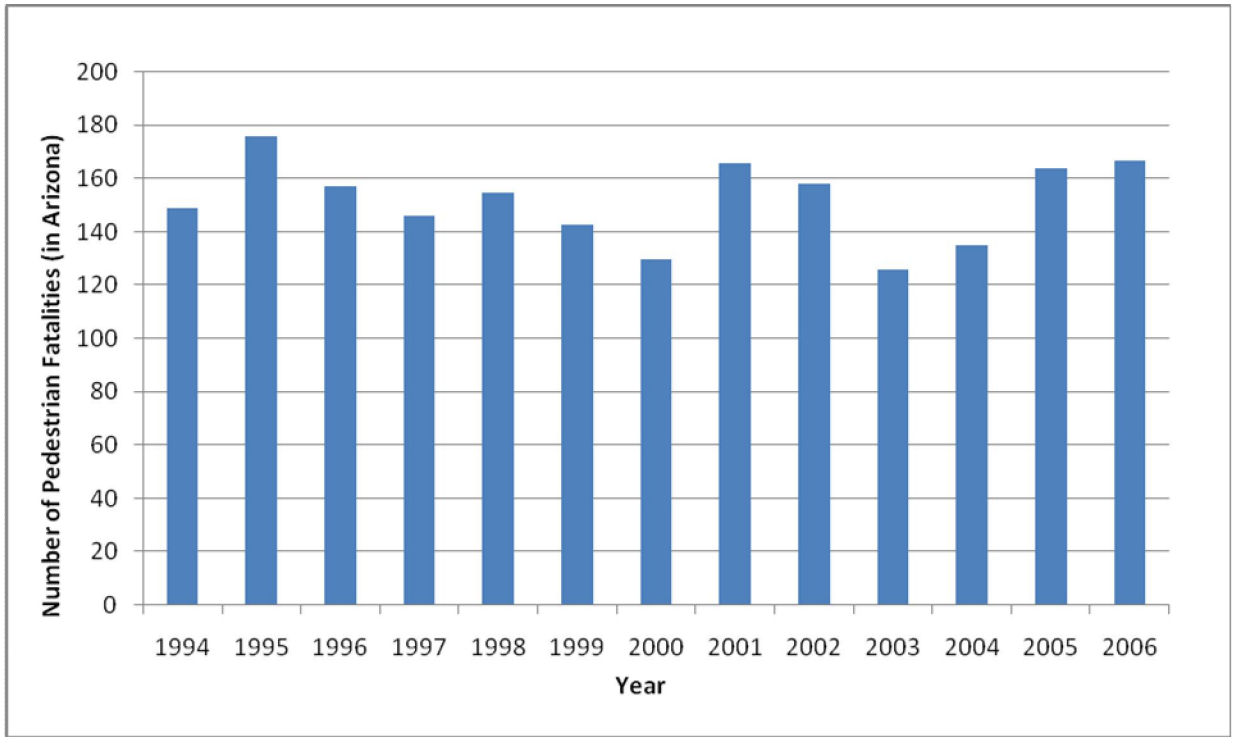
- Nationally, in 2006, 4,784 pedestrians were killed in motor crashes in the United States, representing approximately 11.2 percent of the total number of people killed in all motor crashes (FARS). In Arizona in 2006, pedestrian fatalities accounted for nearly 13 percent of all motor crash fatalities in the state, higher than the national average, and according to the National Household Travel Survey data (presented in Chapter 2) pedestrians represent only 9 percent of all trips; thus, pedestrians are overrepresented in fatalities.
- **Exhibit 3-1** illustrates the number of pedestrian fatalities reported nationally from 1994 to 2006 (FARS). Nationally, the number of pedestrian fatalities has trended downward since 1995. However, the number of pedestrian fatalities has increased in 2005 and 2006 from the reported low in 2004. In Arizona, pedestrian crashes from 1994 to 2006 have remained relatively constant. However, pedestrian crashes in 2004, 2005 and 2006 are higher than the 12-year low in 2003. **Exhibit 3-1** illustrates the number of pedestrian fatalities reported 1994 to 2006 (FARS). **Exhibit 3-2** shows the trend of pedestrian fatalities from 1994 to 2006 in Arizona..
- The states with the ten highest pedestrian fatality rates per 100,000 population in 2006 are shown in **Exhibit 3-3**. In 2006, Arizona had the 6th highest pedestrian fatality rate. In 2006, New Mexico had the highest pedestrian fatality rate while California had the largest total number of pedestrian fatalities (FARS).

Exhibit 3-1 – Nationwide Pedestrian Fatality Trend from 1994 to 2006



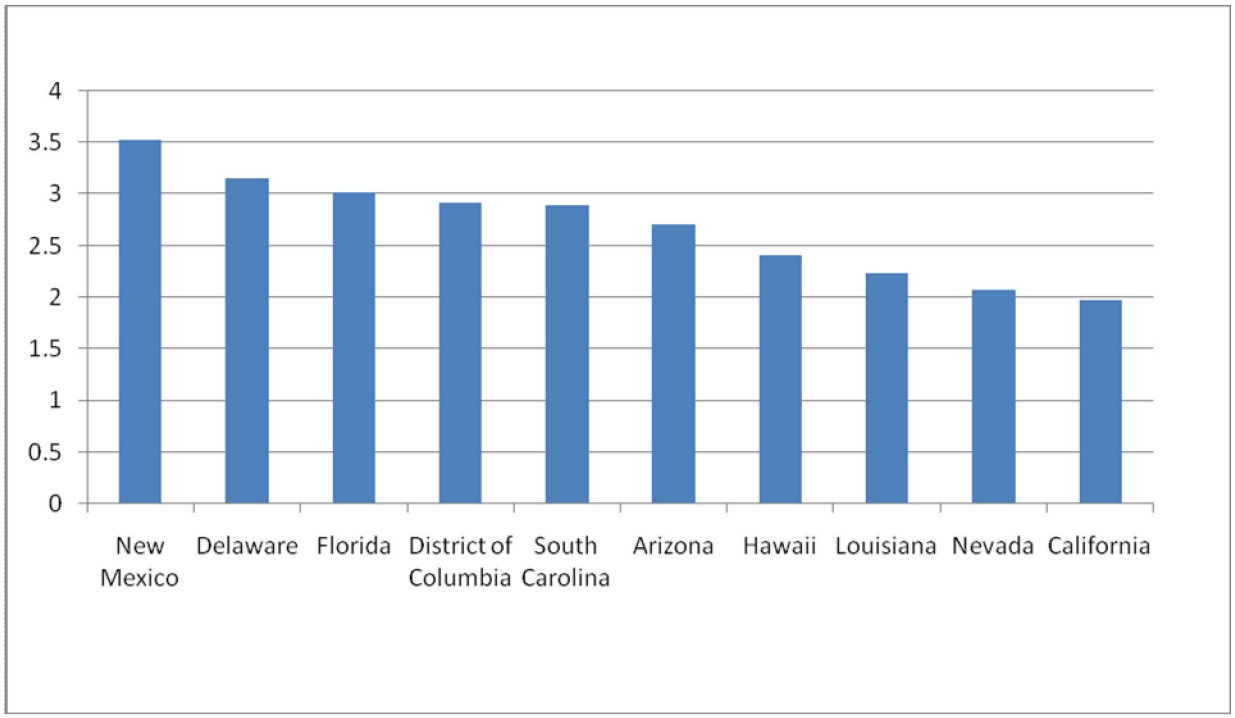
Source: Fatality Accident Reporting System

Exhibit 3-2 – Pedestrian Fatality Trends in Arizona, 1994 to 2006



Source: Fatality Accident Reporting System

Exhibit 3-3 – Pedestrian Fatality Rate per 100,000 Population by State, 2006



3.2 Roadway Characteristics and Location of Pedestrian Crashes

- Nationally, in 2006, approximately 77 percent of pedestrian fatalities in the United States occurred at non-intersections while approximately 21 percent occurred at intersections. In Arizona, between 2001 and 2005, approximately 12 percent of the pedestrian fatalities occurred at intersections.
- Nationally, in 2001, nearly two-thirds of pedestrian fatalities occurred on urban roadways. In Arizona, between 2002 and 2006, approximately 71 percent of pedestrian fatalities occurred on urban roadways.
- Nationally, in 2003, approximately 86 percent of all non-fatal pedestrian crashes occurred in urban areas and 72 percent of all pedestrian fatalities occurred in urban areas. In Arizona, between 2002 and 2006, 90 percent of the pedestrian crashes and 72 percent of the pedestrian fatalities occurred in urban areas.
- Nationally, in 2006, 90 percent of pedestrian fatalities occurred on roadways with posted speed limit of 30 mph or more. In Arizona, in 2006, 93 percent of pedestrian fatalities occurred on roadways with posted speed limit of 30 mph or more.

3.3 Pedestrian Crash Lighting Conditions

- Nationally, in 2001, nearly two-thirds of the pedestrian fatalities occurred when the light condition was either dark or dark but lighted.
- In Arizona in 2005, 45 percent of the pedestrian crashes occurred in darkness or dawn.
- In Arizona in 2005, 78 percent of all pedestrian fatalities occurred in darkness or dawn.

3.4 Pedestrian Crash Victims Gender

- Nationally, in 2005, the pedestrian fatality rate per 100,000 populations for males is more than twice that of females. In Arizona, the number of male pedestrians killed in motor crashes was almost four times the number of females, which over-represents the nationwide data.

3.5 Day of Week of Pedestrian Crashes

- Nationally, in 2001, 48 percent of the pedestrian fatalities occurred on Friday, Saturday and Sunday. In Arizona, between 2002 and 2006, nearly 49 percent of the pedestrian fatalities occurred on Friday, Saturday, and Sunday, comparable to the national statistics.
- Nationally, in 2006, on weekdays, about 42 percent of the pedestrian fatalities occurred between 6 PM and midnight. On the weekends, this number increases to 52 percent. In Arizona, in 2006, approximately 43 percent of the pedestrian fatalities occurred between 6 PM and midnight on weekdays and this number increases to 61 percent during the weekends.

3.6 Characteristics of Vehicle Type Involved in Pedestrian Crashes

- Nationally, in 2006, passenger car and light truck were involved in 41 percent and 40 percent of the pedestrian fatalities, respectively. In Arizona, in 2006, passenger car and light truck were involved in 32 percent and 42 percent of the pedestrian fatalities, respectively.
- Nationally, in 2001, speeding was recorded as a factor for the crash in 7 percent of the pedestrian fatalities. In Arizona, between 2002 and 2006, speeding was recorded as a factor for 8 percent of the pedestrian fatal crashes.

3.7 Pedestrian Behavior

- Nationally, in 2006, 87 percent of pedestrian fatalities were attributed to front impact of vehicle. In Arizona, in 2006, 90 percent of pedestrian fatalities were attributed to front impact of vehicle.
- Nationally, in 2006, the percentages of pedestrian fatalities by pedestrian behavior were:
  - Improper crossing of a roadway or intersection (22 percent)
  - Walking, playing, working, etc. on roadway (19 percent)
  - Failure to yield right of way (14 percent)
  - Darting or running into road (13 percent)
  - Not visible (12 percent).
- In Arizona, in 2006, the percentages of pedestrian fatalities by pedestrian behavior were:
  - Improper crossing of a roadway or intersection (44 percent)
  - Walking, playing, working, etc. on roadway (15 percent)
  - Failure to yield right of way (11 percent)
  - Darting or running into road (8 percent)
  - Not visible (7 percent).
- In Arizona in 2005, the most significant pedestrian action involved in the fatalities is crossing road, with over 60 percent of the pedestrians killed when they were crossing road.

3.8 Alcohol Consumption

- Nationally, in 2005, 26 percent of pedestrian fatalities occurred when the pedestrians' Blood Alcohol Concentration (BAC) equaled or exceeded 0.08.
- Nationally, in 2005, 6 percent of pedestrian fatalities occurred when the drivers' BAC equaled or exceeded 0.08.
- In Arizona, between 2001 and 2005, impaired driving accounts for approximately 5 percent of the pedestrian fatalities.
- Nationally, in 2005, 57 percent of the pedestrian fatalities occurred when neither pedestrians nor drivers consumed alcohol.
- In Arizona in 2005, over 24 percent of the pedestrian fatalities occurred when pedestrians had been drinking, nearly 27 percent of the fatalities occurred with pedestrians under no apparent influence. The physical condition of the pedestrian was reported to have been unknown in 42 % of the fatal crashes.

3.9 Other Causation Factors

- Nationally, in 2001, driver factors related to pedestrian fatalities are:
    - Hit-and-run (16 percent)
    - Inattentive (7 percent)
    - Driving too fast for conditions (7 percent)
    - Failure to yield right-of-way (7 percent)
    - Failure to keep in proper lane (6 percent)

3.10 Chapter 3 Sources

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Shankar, Umesh, Presentation. (2004). Analysis of Pedestrian Fatalities, National Highway Traffic Safety Administration, National Center for Statistics and Analysis.

4.0 ANALYSIS OF ARIZONA PEDESTRIAN CRASHES

Summaries of national and Arizona pedestrian crash statistics were presented in Chapter 3. Chapter 4 presents a more detailed analysis of pedestrian crashes in Arizona for a five year period, from January 1, 2002 to December 31, 2006. Crash data for this analysis was obtained from the Arizona Department of Transportation in March 2008.

The analysis of pedestrian crashes is conducted on a tiered approach:

- Tier 1: Reviews pedestrian crashes statewide (all roadways).
- Tier 2: Reviews pedestrian crashes on the state highway system, including a summary of crashes by urban area.
- Tier 3: Reviews pedestrian crashes for a cross-section of representative jurisdictions and Tribal Communities that rely on the state highway system.
- Tier 4: Presents specific corridors and locations with a high number of pedestrian crashes.

4.1 Tier 1 Analysis - Pedestrian Crashes Statewide (All Roadways in Arizona)

Exhibit 4-1 lists pedestrian crashes statewide that occurred between January 1, 2002 and December 31, 2006, categorized by those that occurred in urban areas and those that occurred in rural areas, as defined by urbanized area boundaries. **Exhibit 4-2** illustrates contributing factors for statewide pedestrian crashes. A review of **Exhibit 4-1** and **4-2** shows the following:

- There were a total of 8,294 pedestrian crashes statewide in Arizona, 2002 to 2006.
- Approximately 90 percent, of pedestrian crashes occurred in urban areas.
- Approximately 55 percent of crashes occurred in daylight, 38 percent of crashes occurred in dark conditions.
- Approximately 4 percent of drivers involved in pedestrian crashes had been drinking.
- Approximately 14 percent of pedestrians involved in pedestrian crashes had been drinking. The condition of the pedestrian was unknown in 19 percent of pedestrian crashes.
- Approximately 20 percent of pedestrian crashes were attributed to the pedestrian not using the cross walk.
- Approximately 20 percent of pedestrian crashes were attributed to the driver not yielding the right-of-way.
- Approximately 22 percent of pedestrians were aged 11 to 20.
- Approximately 21 percent of drivers involved in pedestrian crashes were age 31 to 40.
- Approximately 64 percent of pedestrians were male.
- Most pedestrian crashes involve single pedestrian and driver, but in some crashes multiple pedestrians and drivers were involved.

Exhibit 4-1 – Statewide Pedestrian Crashes, 2002 - 2006, Rural and Urban Areas

	Number of Crashes	Percentage of Total Crashes	Number of fatal crashes
Rural Area Pedestrian Crashes	802	10.4 %	220
Urban Area Pedestrian Crashes	7,492	89.6 %	533
Total	8,294		753

Exhibit 4-2 – Statewide Pedestrian Crashes, 2002- 2006, Contributing Factors

Contributing Factor	Condition	Number of crashes	Percentage
Lighting Conditions	Not Reported	27	< 1 %
	Daylight	4600	55 %
	Dawn or Dusk	542	7 %
	Darkness	3125	38 %
Weather	Not Reported	91	1 %
	Clear	7113	86 %
	Cloudy	818	10 %
	Sleet/Hail	10	< 1 %
	Rain	232	3 %
	Snow	15	< 1 %
	Severe Crosswinds	2	< 1 %
	Blowing Sand, Soil, Dirt, Snow	8	< 1 %
	Fog, Smog, Smoke	5	< 1 %
Surface Condition	Not Reported	237	3 %
	Dry	7617	92 %
	Wet	346	4 %
	Sand, Mud, Dirt, Oil or Gravel	29	< 1 %
	Snow	5	< 1 %
	Slush	7	< 1 %
	Ice	18	< 1 %
	Other	4	< 1 %
	Unknown	31	< 1 %
Control	Non-Controlled Access	8008	97 %
	Mainline	213	3 %
	Off-Ramp	28	< 1 %
	On-Ramp	12	< 1 %
	Frontage Road	18	< 1 %
	Crossroad	13	< 1 %
	Rest Area/Inspection	2	< 1 %
Physical Condition (Driver)	Not Reported	86	1 %
	No Apparent Influence	6466	74 %
	Had Been Drinking	343	4 %
	Appeared to be Under Influence of Drugs	27	< 1 %
	Ill-Ability Influenced	9	< 1 %

Exhibit 4-2 – Statewide Pedestrian Crashes, 2002 – 2006, Contributing Factors (continued)

Contributing Factor	Condition	Number of crashes	Percentage
Physical Condition (Driver) (continued)	Sleepy-Fatigued	15	< 1 %
	Physical Impairment	9	< 1 %
	Prescription Drugs	7	< 1 %
	Other	75	1 %
	Unknown	1736	20 %
Physical Condition (Pedestrian)	Not Reported	302	3 %
	No Apparent Influence	5291	60 %
	Had Been Drinking	1276	14 %
	Appeared to be Under Influence of Drugs	36	< 1 %
	Ill-Ability Influenced	9	< 1 %
	Sleepy-Fatigued	8	< 1 %
	Physical Impairment	70	1 %
	Prescription Drugs	11	< 1 %
	Other	162	2 %
	Unknown	1673	19 %
Violation (Pedestrian)	Failed to Yield Right-Of-Way	792	9 %
	Disregarded Traffic Signal	246	3 %
	Inattention	948	11 %
	Did Not Use Crosswalk	1801	20 %
	Walking Against Traffic	134	2 %
	Other	3131	35 %
	Unknown	1786	20 %
Violation (Driver)	No Improper Driving	3953	45 %
	Speed Too Fast for Conditions	601	7 %
	Exceeded Lawful Speed	59	1 %
	Failed to Yield Right-Of-Way	1716	19 %
	Followed Too Closely	6	< 1 %
	Ran Stop Sign	29	< 1 %
	Disregarded Traffic Signal	79	1 %
	Made Improper Turn	47	1 %
	Drove in Opposing Traffic Lane	38	< 1 %
	Knowingly Operated with Faulty or Missing Equipment	6	< 1 %

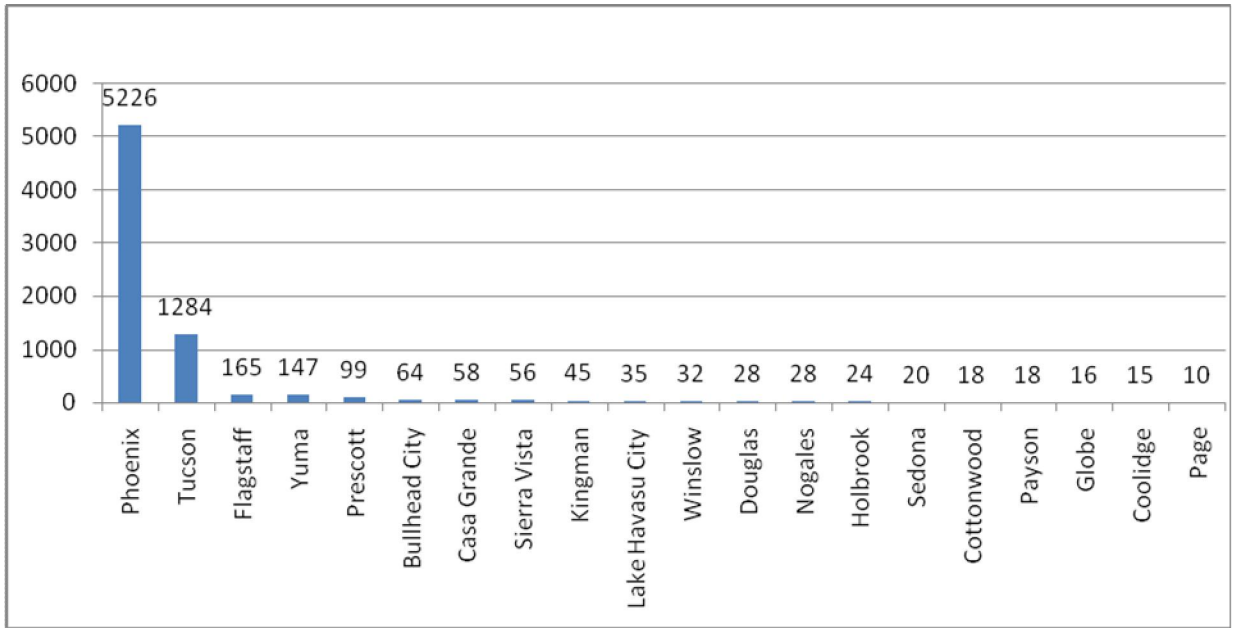
Exhibit 4-2 – Statewide Pedestrian Crashes, 2002 – 2006, Contributing Factors (continued)

Contributing Factor	Condition	Number of crashes	Percentage
Violation (Driver) (continued)	Required Motorcycle Safety Equipment Not Used	1	< 1 %
	Pass in No-Passing Zone	1	< 1 %
	Unsafe Lane Change	20	< 1 %
	Other Unsafe Passing	29	< 1 %
	Inattention	751	8 %
	Other	492	6 %
	Unknown	945	11 %
Age (Pedestrian)	0 to 5	366	4 %
	6 to 15	1513	17 %
	16 to 24	1615	18 %
	25 to 54	3533	40 %
	55 to 80	1087	12 %
	>80	36	1 %
	Unknown	688	8 %
Age (Driver)	0 to 15	62	1 %
	16 to 17	300	3 %
	18 to 19	439	5 %
	20 to 24	1115	13 %
	25 to 34	1489	17 %
	35 to 64	3011	34 %
	65 to 80	539	6 %
	>80	134	2 %
	Unknown	1684	19 %
Gender (pedestrian)	Female	3088	35 %
	Male	5678	64 %
	Unknown, Not Reported	72	1 %
Gender (Driver)	Female	2905	33 %
	Male	4762	54 %
	Unknown, Not Reported	1106	13 %

Exhibit 4-3 displays statewide pedestrian crash data by urban area. Urban areas with ten or more crashes are shown. 78 percent of pedestrian crashes occurred in the two largest urban areas of the state:

Phoenix (63 percent), and Tucson (15 percent). **Exhibit 4-3** shows that approximately 99 percent of pedestrian crashes occurred in twenty urban areas.

Exhibit 4-3 – Statewide Pedestrian Crashes, 2002 – 2006, Urban Areas



4.2 Tier 2 Analysis - Pedestrian Crashes on State Highways

A majority of pedestrian crashes in Arizona (over 90 percent) occur on local city and county roadways that are outside of the jurisdiction of the ADOT. However, although the Plan is focused on state highways, it is anticipated that many of the recommendations from the Plan will benefit both pedestrian safety on state highways and local roadways. For example, final recommendations of the Pedestrian Safety Action Plan may include development of education materials or a public safety campaign.

This section includes an analysis of pedestrian crashes that occurred on state highways.

As reported in **Exhibit 4-4**, 771 pedestrian crashes were reported on state highways between January 1, 2002 and December 31, 2006. **Exhibit 4-5** displays contributing factors to pedestrian crashes on the state highways. A review of **Exhibit 4-4** and **4-5** yields the following:

- 65 percent of pedestrian crashes on state highways occurred in urban areas (90 percent of crashes statewide occurred in urban areas).
- 56 percent of pedestrian crashes on state highways occurred in dark conditions.
- 23 percent of pedestrian crashes on state highways included a report that the pedestrian had been drinking. The physical condition of the pedestrian was unknown in 24 percent of pedestrian crash reports.
- 17 percent of pedestrian crashes on state highways included a report that the pedestrian did not use the crosswalk.
- Ages of pedestrian involved in crashes on state highways was relatively evenly distributed among those between age 21 and 60.
- 71 percent of pedestrians involved in crashes on state highways are male.

It should also be noted that the vast majority of pedestrian crashes on state highways involved a single pedestrian and a single vehicle but in some crashes multiple pedestrians and drivers were involved.

Exhibit 4-4 – Pedestrian Crashes on State Highways, 2002 - 2006

	Number of crashes on state highways	Percentage of total crashes on state highways	Total number of fatalities on state highways
Rural Area Pedestrian Crashes	267	34.6 %	112
Urban Area Pedestrian Crashes	504	65.4 %	65
Total	771		177

Exhibit 4-5 – Pedestrian Crashes on State Highways, 2002 -2006, Contributing Factors

Contributing Factor	Condition	Number of crashes	Percentage
Lighting Conditions	Not Reported	2	< 1 %
	Daylight	298	39 %
	Dawn or Dusk	42	5 %
	Darkness	429	56 %
Weather	Not Reported	22	3 %
	Clear	626	81 %
	Cloudy	79	10 %
	Sleet/Hail	3	< 1 %
	Rain	30	4 %
	Snow	4	1 %
	Severe Crosswinds	1	< 1 %
	Blowing Sand, Soil, Dirt, Snow	3	< 1 %
	Fog, Smog, Smoke	3	< 1 %
Surface Condition	Not Reported	52	7 %
	Dry	668	87 %
	Wet	38	5 %
	Sand, Mud, Dirt, Oil or Gravel	2	< 1 %
	Snow	2	< 1 %
	Slush	2	< 1 %
	Ice	2	< 1 %
	Other	1	< 1 %
	Unknown	4	< 1 %

Exhibit 4-5 – Pedestrian Crashes on State Highways, 2002 -2006, Contributing Factors

Contributing Factor	Condition	Number of crashes	Percentage
Control	Non-Controlled Access	621	81 %
	Mainline	121	16 %
	Off-Ramp	2	< 1 %
	On-Ramp	1	< 1 %
	Frontage Road	17	2 %
	Crossroad	9	1 %
Physical Condition (Driver)	Not Reported	12	1 %
	No Apparent Influence	645	76 %
	Had Been Drinking	43	5 %
	Appeared to be Under Influence of Drugs	1	< 1 %
	Ill-Ability Influenced	2	< 1 %
	Sleepy-Fatigued	2	< 1 %
	Physical Impairment	1	< 1 %
	Other	11	1 %
	Unknown	131	16 %
Physical Condition (Pedestrian)	Not Reported	37	4 %
	No Apparent Influence	356	43 %
	Had Been Drinking	191	23 %
	Appeared to be Under Influence of Drugs	7	1 %
	Ill-Ability Influenced	3	< 1 %
	Sleepy-Fatigued	1	< 1 %
	Physical Impairment	5	1 %
	Prescription Drugs	4	< 1 %
	Other	26	3 %
	Unknown	201	24 %
Violation (Pedestrian)	Failed to Yield Right-Of-Way	62	8 %
	Disregarded Traffic Signal	24	3 %
	Inattention	110	13 %
	Did Not Use Crosswalk	145	17 %
	Walking Against Traffic	26	3 %
	Other	304	37 %
	Unknown	160	19 %

Exhibit 4-5 – Pedestrian Crashes on State Highways, 2002 – 2006, Contributing Factors (continued)

Contributing Factor	Condition	Number of crashes	Percentage
Violation (Driver)	No Improper Driving	428	50 %
	Speed Too Fast for Conditions	63	7 %
	Exceeded Lawful Speed	4	< 1 %
	Failed to Yield Right-Of-Way	101	12 %
	Disregarded Traffic Signal	10	1 %
	Made Improper Turn	5	1 %
	Drove in Opposing Traffic Lane	4	< 1 %
	Knowingly Operated with Faulty or Missing Equipment	1	< 1 %
	Unsafe Lane Change	5	1 %
	Other Unsafe Passing	6	1 %
	Inattention	78	9 %
	Other	44	5 %
	Unknown	99	12 %
Age (Pedestrian)	0 to 5	8	1 %
	6 to 15	69	8 %
	16 to 24	143	17 %
	25 to 54	411	50 %
	55 to 80	124	15 %
	>80	15	2 %
	Unknown	61	7 %
Age (Driver)	0 to 15	1	< 1 %
	16 to 17	18	2 %
	18 to 19	37	4 %
	20 to 24	102	12 %
	25 to 34	136	16 %
	35 to 64	346	41 %
	65 to 80	64	8 %
	>80	12	1 %
	Unknown	132	16 %

Exhibit 4-5 – Pedestrian Crashes on State Highways, 2002 – 2006, Contributing Factors (continued)

Contributing Factor	Condition	Number of crashes	Percentage
Gender (pedestrian)	Female	234	28 %
	Male	588	71 %
	Unknown, Not Reported	9	1 %
Gender (Driver)	Female	260	31 %
	Male	474	56 %
	Unknown, Not Reported	114	13 %

Exhibit 4-6 shows a comparison of contributing factors for crashes statewide with those on state highways. The analysis shows:

- Dark conditions contributed to 56 percent of crashes on the state highways, as compared to 38 percent of crashes statewide.
- Alcohol contributed to more crashes on the state highways than to crashes statewide, contributing to 23 percent of crashes on the state highways as compared to 14 percent statewide.
- Pedestrian crash victims on the state highways tend to be older than victims on routes statewide: 22 percent of victims on routes statewide are ages 11 to 20, while just 3 percent of victims on the state highways are ages 11 to 20.

Exhibit 4-6 – Comparison of Contributing Factors
(For Pedestrian Crashes on all Arizona Roadways and Pedestrian Crashes on State Highways)
Note: Compares Exhibit 4-2 and 4-5

Contributing Factor	Condition	Percentage of crashes on all roadways	Percentage of crashes on state highways
Lighting Conditions	Daylight	55 %	39 %
	Dawn or Dusk	7 %	5 %
	Darkness	38 %	56 %
Weather	Not Reported	1 %	3 %
	Clear	86 %	81 %
	Cloudy	10 %	10 %
	Rain	3 %	4 %
	Snow	< 1 %	1 %
Surface Condition	Not Reported	3 %	7 %
	Dry	92 %	87 %
	Wet	4 %	5 %
	Unknown	< 1 %	< 1 %

Exhibit 4-6 – Comparison of Contributing Factors, 2002 - 2006
(For Pedestrian Crashes on all Arizona Roadways and Pedestrian Crashes on State Highways)
Note: Compares Exhibit 4-2 and 4-5 (continued)

Contributing Factor	Condition	Percentage of crashes on all roadways	Percentage of crashes on state highways
Control	Non-Controlled Access	97 %	81 %
	Mainline	3 %	16 %
	Frontage Road	< 1 %	2 %
	Crossroad	< 1 %	1 %
Physical Condition (Driver)	Not Reported	1 %	1 %
	No Apparent Influence	74%	76 %
	Had Been Drinking	4 %	5 %
	Other	1 %	1 %
	Unknown	20 %	16 %
Physical Condition (Pedestrian)	Not Reported	3 %	4 %
	No Apparent Influence	60 %	43 %
	Had Been Drinking	14 %	23 %
	Appeared to be Under Influence of Drugs	< 1 %	1 %
	Physical Impairment	1 %	1 %
	Other	2 %	3%
	Unknown	19 %	24 %
Violation (Pedestrian)	Failed to Yield Right-Of-Way	9 %	8 %
	Disregarded Traffic Signal	3%	3 %
	Inattention	11 %	13 %
	Did Not Use Crosswalk	20 %	17 %
	Walking Against Traffic	2 %	3 %
	Other	35 %	37 %
	Unknown	20 %	19 %
Violation (Driver)	No Improper Driving	45 %	50 %
	Speed Too Fast for Conditions	7%	7 %
	Exceeded Lawful Speed	1 %	< 1 %
	Failed to Yield Right-Of-Way	20 %	12 %
	Disregarded Traffic Signal	1 %	1 %
	Made Improper Turn	1 %	1 %
	Unsafe Lane Change	< 1 %	1 %
	Other Unsafe Passing	< 1 %	1 %
	Inattention	9 %	9 %

Exhibit 4-6 – Comparison of Contributing Factors
(For Pedestrian Crashes on all Arizona Roadways and Pedestrian Crashes on State Highways)
Note: Compares Exhibit 4-2 and 4-5 (continued)

Contributing Factor	Condition	Percentage of crashes on all roadways	Percentage of crashes on state highways
Violation (Driver) (continued)	Other	6%	5 %
	Unknown	11%	12 %
Age (Pedestrian)	0 to 5	4 %	1 %
	6 to 15	17 %	8 %
	16 to 24	18 %	17 %
	25 to 54	40 %	50 %
	55 to 80	12 %	15 %
	>80	1 %	2 %
	Unknown	8 %	7 %
Age (Driver)	0 to 15	1 %	< 1 %
	16 to 17	3 %	2 %
	18 to 19	5 %	4 %
	20 to 24	13 %	12 %
	25 to 34	17 %	16 %
	35 to 64	34 %	41 %
	65 to 80	6 %	8 %
	>80	2 %	1 %
	Unknown	19 %	16 %
Gender (pedestrian)	Female	35 %	28 %
	Male	64 %	71 %
	Unknown, Not Reported	1 %	1 %
Gender (Driver)	Female	33 %	31 %
	Male	54 %	56 %
	Unknown, Not Reported	13 %	13 %

4.3 Tier 3 Analysis – Pedestrian Crashes on State Highways on Tribal Communities and in Focus Urban Areas

This section includes an analysis of pedestrian crashes on state highway by urban areas and by tribal communities. The purpose of this analysis is to understand the varying factors that influence pedestrian crashes at a more localized level, as opposed to the statewide analysis that has been presented.

Exhibit 4-7 presents pedestrian crashes on state highways by urban area, for urban areas with 10 or more crashes. **Exhibit 4-8** lists pedestrian crashes on state highways by urban area. Urban areas are as defined by the U.S. Census Bureau.

Exhibit 4-9 lists pedestrian crashes by Tribal community.

Exhibit 4-7 – Pedestrian Crashes on State Highways, 2002 – 2006, Urban Areas

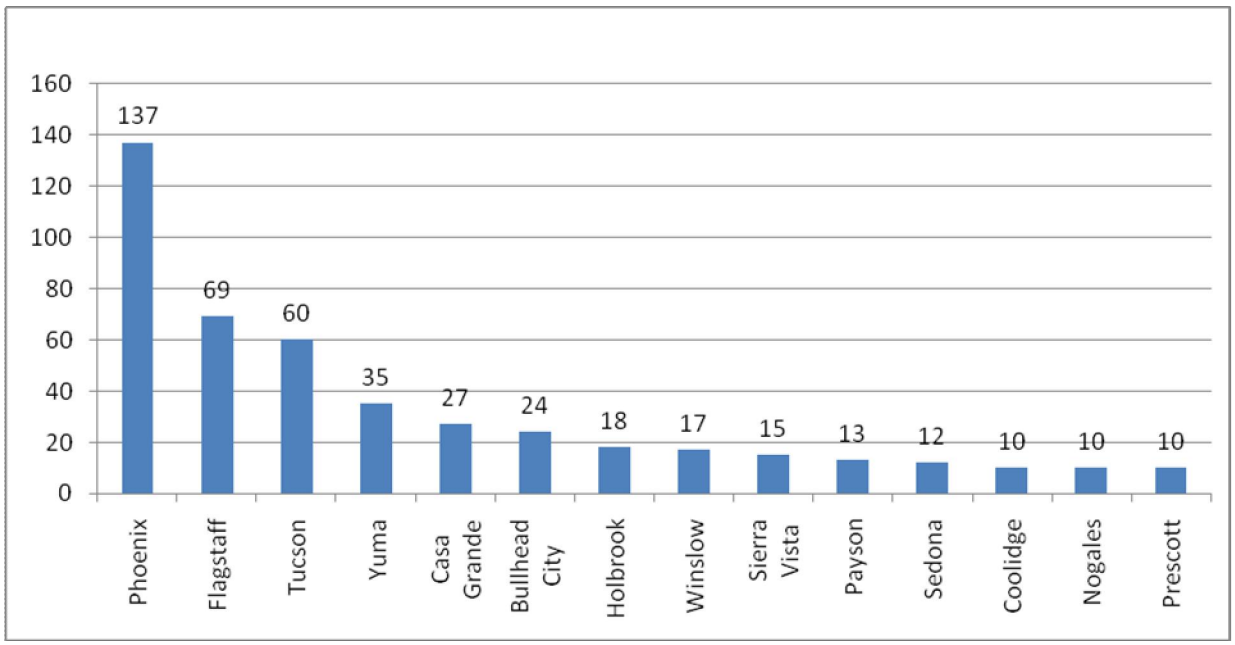


Exhibit 4-8 – Pedestrian Crashes on State Highways, 2002 -2006, Urban Areas

Urban Area	County	Number of Pedestrian Crashes	Percentage of Total Crashes on all State Highways
Phoenix urbanized area	Maricopa	137	17.77 %
Flagstaff	Coconino	69	8.95 %
Tucson urbanized area	Pima	60	7.78 %
Yuma	Yuma	35	4.54 %
Casa Grande	Pinal	27	3.50%
Bullhead City	Mohave	24	3.11 %

Exhibit 4-8 – Pedestrian Crashes on State Highways, 2002 -2006, Urban Areas (continued)

Urban Area	County	Number of Pedestrian Crashes	Percentage of Total Crashes on all State Highways (urban and rural)
Holbrook	Navajo	18	2.33 %
Winslow	Navajo	17	2.20 %
Sierra Vista	Cochise	15	1.95 %
Payson	Gila	13	1.69 %
Sedona	Yavapai	12	1.56 %
Coolidge	Pinal	10	1.30 %
Nogales	Santa Cruz	10	1.30 %
Prescott	Yavapai	10	1.30 %
Kingman	Mohave	7	0.91 %
Cottonwood	Yavapai	5	0.65 %
Globe	Gila	4	0.52 %
Parker	La Paz	3	0.39 %
Pinetop-Lakeside	Navajo	3	0.39 %
Show Low	Navajo	3	0.39 %
Catalina	Pima	2	0.26 %
Chino Valley	Yavapai	2	0.26 %
Lake Havasu City	Mohave	2	0.26 %
San Luis	Yuma	2	0.26 %
Snowflake	Navajo	2	0.26 %
Superior	Pinal	2	0.26 %
Wickenburg	Maricopa	2	0.26 %
Ajo	Pima	1	0.13 %
Benson	Cochise	1	0.13 %
Douglas	Cochise	1	0.13 %
Florence	Pinal	1	0.13 %
Fort Defiance	Apache	1	0.13 %
Quartzsite	La Paz	1	0.13 %
Somerton	Yuma	1	0.13 %
White River	Navajo	1	0.13 %
Total		504	65.37 %

Exhibit 4-9 – Pedestrian Crashes on State Highways on Tribal Communities (2002 -2006)

Tribal Community	Number of pedestrian crashes reported on all roadways on Tribal Community	Number of pedestrian crashes reported on State Highways	Number of miles of State Highways on Tribal Community
Colorado River	5	4	4.2
Fort-Mohave	4	4	5.1
Gila River	24	7	75.3
Hopi	5	0	83.4
Hualapai	1	0	-
Indian Allotments	1	1	-
Navajo	37	21	729.9
Navajo-Hopi Joint Use Area	2	1	23.8
Salt River	21	5	18.6
San Carlos	5	1	51.6
San Xavier	2	1	7.6
Tohono O'odham	11	4	106.9
White Mountain Apache	10	9	127.7
Yavapai Apache	1	0	-
Yavapai Prescott	2	1	-
Total	131	59 (37 fatal crashes)	1234.1

4.3.1 Focus Areas

The next step in the analysis was to identify focus areas for which additional crash analysis would be conducted. Focus areas include the jurisdictions and urbanized areas listed in **Exhibit 4-10**. Focus areas were selected based on the following criteria:

- Focus area ranked in the top 15 urban areas statewide in terms of number of pedestrian crashes;
- A state highway passes through the focus area; and
- Jurisdiction staff from a focus area jurisdiction participated in a telephone interview to discuss pedestrian safety within their respective jurisdiction.

Additional pedestrian crash analysis was performed for each focus area. A telephone interview was also conducted with a representative of each focus area to solicit input and perspectives with respect to pedestrian safety. Results of each focus area jurisdiction interview are also included in **Appendix A. Appendix A** also includes mapping of pedestrian crashes within each focus area.

A summary of pedestrian crashes contributing factors for each focus area is presented in **Exhibit 4-11.**

Exhibit 4-10 – Focus Areas

Focus Jurisdiction	County	Number of Crashes on State Highways within Jurisdiction Boundary (1), (2)	Percentage of Crashes on State Highways, Statewide, 2002 - 2006
Bullhead City	Mohave	26	3.11 %
Casa Grande	Pinal	27	3.50 %
Coolidge	Pinal	10	1.30 %
Flagstaff	Coconino	62	8.95 %
Holbrook	Navajo	18	2.33 %
Nogales	Santa Cruz	10	1.30%
Phoenix urbanized area (2)	Maricopa	137	17.77 %
Sedona	Yavapai	12	1.56 %
Tucson urbanized area (2)	Pima	60	7.78 %
Yuma	Yuma	33	4.54 %
Total Crashes		395	52.14 %

NOTES:

1. For all focus areas with exception to Phoenix urbanized area and Tucson urbanized area, column 3 of Exhibit 4-10 represents the number of pedestrian crashes, 2002 to 2006, that occurred within jurisdiction boundaries.
2. For Phoenix and Tucson urbanized areas, column 3 represents the number of crashes, 2002 to 2006, that occurred within the Phoenix and Tucson urbanized areas as defined by the U.S. Census Bureau, Census 2000.

Exhibit 4-11– Summary of Focus Area Pedestrian Crashes on State Highways, 2002 – 2006, Contributing Factors

Focus Jurisdiction	Number of Crashes and Fatalities on state highways within Jurisdiction Boundary		Key Contributing Factor										
	Crashes	Fatalities	Roadway Control	Pedestrian Action	Day Versus Night Crashes	Physical Condition of Pedestrian	Physical Condition of Driver	Pedestrian Violation	Driver Violation	Driver Action	Age	Gender	Stakeholder Comments (from interviews – see Appendix B)
Bullhead City	26	5	All crashes occurred on non-controlled access	Crossing the road (70 %)	Darkness (62 %) Dawn or Dusk (8%)	Had been drinking (22 %)	4 % of the drivers had been drinking	▪ Failure to Yield (26 %) ▪ Did Not Use Crosswalk (26 %)	▪ No violations (67 %). ▪ Speed Too Fast for Conditions (7%) ▪ Disregarded traffic signal (4 %) ▪ Inattention (11 %)	▪ Going straight ahead (74 %) ▪ Making left turn (11 %) ▪ Making right turn (4 %)	▪ 22 % of pedestrians aged 41 to 50 ▪ 33% of drivers aged 61 to 70	70% of pedestrians male	US 95 is well lit, however there are sidewalk discontinuities. Pedestrians cross US 95 at uncontrolled crossing locations to reach sidewalks on opposite sides of the street. SR 68 is not lit
Casa Grande	27	3	All crashes occurred on non-controlled access	Crossing the road (67%)	Darkness (44%) Daylight (44%)	Had been drinking (13%)	No drivers had been drinking	▪ Did not use crosswalk (27%) ▪ Failure to Yield (10%) ▪ Inattention (10%)	▪ Failed to Yield Right-of-Way (19 %) ▪ Inattention (11 %) ▪ Drove in Opposing Traffic Lane (4 %)	▪ Going straight ahead (52 %) ▪ Making left-turn (22 %) ▪ Making right turn (7 %)	▪ 20% of pedestrians aged 11-20	67 % of pedestrians male	Biggest concern on state routes is at the interchange of I-10 and SR 287 (east side of interchange). Sidewalks are immediately adjacent to the street Transients walk across the road A number of crashes are on Pinal and Florence Boulevard near activity centers.
Coolidge	10	1	All crashed occurred on non-controlled access	Crossing the road (79 %)	Darkness (40 %)	Had been drinking (7%)	Had been drinking (7%)	▪ Inattention (29 %) ▪ Failed to Yield Right-of-Way (7%) ▪ Did Not Use Crosswalk (7 %) ▪ Other and unknown (57 %)	▪ Failed to Yield Right-of-Way (30 %) ▪ Inattention (20 %)	▪ Going Straight Ahead (50 %) ▪ Making Left-Turn (40 %) ▪ Right-Turn (10 %)	▪ 36 % of pedestrians aged 11-20 ▪ 30 % drivers aged 21-30	57 % of pedestrians female	SR 87 between Vah Ki Inn Road and Martin Road there are requests for mid-block crosswalks. SR 287, near Skousen Road, there is a trading post which attracts pedestrian traffic
Flagstaff	62	6	98 % of crashes occurred on non-controlled access	Crossing the road (71%)	Darkness (56 %) Dawn or Dusk (5 %)	Had been drinking (38 %)	2 % of the drivers (1 driver) had been drinking	▪ Did Not Use Crosswalk (21 %) ▪ Failed to Yield Right-of-Way (13 %) ▪ Inattention (7 %) ▪ Disregarded Traffic Signal (6 %)	▪ Failed to Yield Right-of-Way (28 %) ▪ Inattention (8 %) ▪ Speed Too Fast for Conditions (5 %)	▪ Going Straight Ahead (52 %) ▪ Making Right-Turn (20%) ▪ Left-Turn (18 %)	▪ 11 to 20 (20 %) ▪ Evenly distributed between 21 and 50	64% of pedestrians male	A key factor with regards to pedestrian safety on state routes within the city is a lack of pedestrian crossings. There are no concentrated places where pedestrians cross the street. Lack of mid-block crossings and high speed are the two big issues

Exhibit 4-11– Summary of Focus Area Pedestrian Crashes on State Highways, 2002 – 2006, Contributing Factors (continued)

Focus Jurisdiction	Number of Crashes and Fatalities on state highways within Jurisdiction Boundary		Key Contributing Factor										
	Crashes	Fatalities	Roadway Control	Pedestrian Action	Day Versus Night Crashes	Physical Condition of Pedestrian	Physical Condition of Driver	Pedestrian Violation	Driver Violation	Driver Action	Age	Gender	Stakeholder Comments (from interviews – see Appendix B)
Holbrook	18	2	▪ 94 % of crashed occurred on non-controlled access ▪ 6% on the mainline	Crossing the road (58 %)	Darkness (72 %)	Had been drinking (58 %)	6 % of the drivers had been drinking	▪ Did Not Use Crosswalk (32 %) ▪ Inattention (37 %) ▪ Failed to Yield Right-of-Way (16 %)	▪ Failed to Yield Right-of-Way (6 %) ▪ Inattention (6 %)	▪ Going Straight Ahead (78 %) ▪ Making Right-Turn (6 %) ▪ Left-Turn (6 %)	▪ 21 % of the pedestrians aged 41-50	79 % of pedestrians male	SR 77, between I-40 and SB 40, this roadway segment has discontinuous sidewalks. Other factors are high numbers of transients, who sometimes are intoxicated, and may attempt unsafe crossing behavior.
Nogales	10	2	▪ 90% of crashes occurred on non-controlled access ▪ 10% on the mainline	Crossing t he road (58 %)	Daylight (50%) Darkness (50 %)	Not reported / no apparent influence	10% of the drivers had been drinking	▪ Did Not Use Crosswalk (25 %) ▪ Inattention (8 %) ▪ Failed to Yield Right-of-Way (8%)	▪ Failed to Yield Right-of-Way (30 %) ▪ Inattention (30 %)	▪ Going Straight Ahead (80 %) ▪ Making Left-Turn (20 %) ▪ Making right turn (0 %)	▪ 25 % of the pedestrians aged 51-60 ▪ 25 % older than 60	75 % of pedestrians male	Main pedestrian concern is with train/ pedestrian crashes, rather than highway–related pedestrian crashes. Possibly putting a fence up so that people can't cross while the train is stopped. The streets are well lit
Phoenix urbanized area NOTE: inclusive of City of Tempe and City of Phoenix	137	21	▪ 59 % of crashes occurred on non-controlled access ▪ 27 % on the mainline ▪ 9 % on frontage roads ▪ 4 % on crossroads	▪ Crossing the road (42%) ▪ Standing (10 %) ▪ Working on / pushing vehicles (11 %)	Darkness (49%) Dawn or Dusk (7 %)	Had been drinking (13%)	Had been drinking (5%)	▪ Did Not Use Crosswalk (16%) ▪ Failed to Yield Right-of-Way (8%) ▪ Inattention (7 %) ▪ Disregarded Traffic Signal (5 %)	▪ Speed Too Fast for Conditions (13%) ▪ Failed to Yield Right-of-Way (9 %) ▪ Inattention (7%)	▪ Going Straight Ahead (53%) ▪ Making Right-Turn (13%) ▪ Left-Turn (6 %)	▪ 21 % of the drivers aged 21-30 ▪ 23 % of the pedestrians aged 31-40	74 % of pedestrians male	
City of Phoenix	81	15	▪ 49 % of crashes occurred on non-controlled access ▪ 28 % on the mainline ▪ 14 % on frontage roads ▪ 7 % on crossroads	▪ Crossing the road (44 %) ▪ Working on / pushing vehicle (12 %)	Darkness (52 %) Dawn or Dusk (7 %)	Had been drinking (12%)	Had been drinking (6%)	▪ Did Not Use Crosswalk (17 %) ▪ Failed to Yield Right-of-Way (11%) ▪ Inattention (7 %) ▪ Disregarded Traffic Signal (6 %)	▪ Speed Too Fast for Conditions (15 %) ▪ Failed to Yield Right-of-Way (6 %) ▪ Inattention (4 %) ▪ Disregarded Traffic Signal (2 %)	▪ Going Straight Ahead (56 %) ▪ Making right turn (14 %) ▪ Making left turn (4 %)	▪ 25 % of the pedestrians aged 31-40	75 % of pedestrians male	Indian School Road between Central and I-17 is area of concern Sidewalks are adjacent to the road Install bike lanes to separate the sidewalks from the road and to decrease the crossing distance I-17 intersections are extremely wide

Exhibit 4-11– Summary of Focus Area Pedestrian Crashes on State Highways, 2002 – 2006, Contributing Factors (continued)

Focus Jurisdiction	Number of Crashes and Fatalities on state highways within Jurisdiction Boundary		Key Contributing Factor										
	Crashes	Fatalities	Roadway Control	Pedestrian Action	Day Versus Night Crashes	Physical Condition of Pedestrian	Physical Condition of Driver	Pedestrian Violation	Driver Violation	Driver Action	Age	Gender	Stakeholder Comments (from interviews – see Appendix B)
City of Tempe	19	2	▪ 63 % of crashes occurred on non-controlled access ▪ 26 % on mainline ▪ 5 % on frontage road ▪ 5 % on on-ramp	▪ Walking with traffic (11 %) ▪ Walking against traffic (11%) ▪ Working on/pushing vehicles (11 %)	Daylight (53 %)	5 % had been drinking 5 % had been ill	5 % of the drivers had been drinking	▪ Did Not Use Crosswalk (16 %) ▪ Failed to Yield Right-of-Way (11 %) ▪ Walking against Traffic (5 %)	▪ Failed to Yield Right-of-Way (21 %) ▪ Speed Too Fast for Conditions (5 %) ▪ Other Unsafe Passing (5 %) ▪ Inattention (11 %)	▪ Going Straight Ahead (37 %) ▪ Making Right-Turn (16 %) ▪ Left-Turn (16 %) ▪ Avoiding Vehicle, Objects, etc (16 %) ▪ Changing Lanes (5 %)	42 % of the pedestrians aged 21-30	63 % of pedestrians male	Lack of bike lanes on frontage roads Focus on people crossing at lesser streets (not arterials) Set-aside funds for pedestrian and bicycle improvements They are working with School Districts so no school children have to cross major arterials to reach a bus stop
Sedona	13	3	▪ 92 % of crashes occurred on non-controlled access	▪ Crossing the road (54 %)	Darkness (54 %)	38 % had been drinking	8 % of the drivers had been drinking	▪ Did Not Use Crosswalk (23 %) ▪ Inattention (8 %) ▪ Disregarded Traffic Signal (8 %) ▪ Walking against Traffic (8 %)	▪ Failed to Yield Right-of-Way (31 %) ▪ Speed Too Fast for Conditions (8 %) ▪ Inattention (8 %)	▪ Going Straight Ahead (54 %) ▪ Making Right-Turn (15 %) ▪ Left-Turn (15 %) ▪ Leaving Driveway (8 %) ▪ Backing (8 %)	▪ 54 % of the pedestrians aged 41-60	69 % of pedestrians male	Targeted lighting and design barrier system from Soldier Pass Road to Dry Creek Road to direct pedestrians to safer routes. Other issues include reduced speeds and increased enforcement. There are few pedestrian crashes along SR-179 because there are few sidewalks to attract pedestrians
Tucson urbanized area	60	5	▪ 88% of crashes occurred on non-controlled access ▪ 7% on mainline ▪ 3 % on frontage road	▪ Crossing road (65%) ▪ Walking against traffic (6%)	Darkness (47%)	12% had been drinking 2% had been influenced by drugs	3% of the drivers had been drinking	▪ Did Not Use Crosswalk (28 %) ▪ Failed to Yield Right-of-Way (12 %) ▪ Disregarded Traffic Signal (5 %) ▪ Inattention (11%)	▪ Failed to Yield Right-of-Way (22 %) ▪ Speed Too Fast for Conditions (5 %)	▪ Going straight ahead (57 %) ▪ Making right-turn (11%) ▪ Making Left-turn (16 %) ▪ Avoiding vehicle, objects, etc (6%)	▪ 18% of the pedestrians aged 21-30 ▪ 22 % of pedestrians aged 41-50	64% of pedestrians male	On segments of SR 77, there are activity centers on both sides of the street which attract more pedestrian crossings. On SR 86, some pedestrian crashes were at school crossings.
Yuma	33	3	▪ 94 % of crashes occurred on non-controlled access	▪ Crossing road (73%)	Darkness (42 %)	15% had been drinking	9 % of the drivers had been drinking	▪ Did Not Use Crosswalk (21 %) ▪ Inattention (12 %)	▪ Failed to Yield Right-of-Way (15 %) ▪ Speed Too Fast for Conditions (15 %) ▪ Inattention (15 %)	▪ Going straight ahead (52%) ▪ Making right-turn (27%) ▪ Making left-turn (12%)	▪ 30% of the pedestrians aged 31-40 ▪ 21% of the drivers aged 21-30	70% of pedestrians male	Began using channelized right turn lanes to shorten pedestrian crossing distances (using pork chop islands)

4.3.2 Tribal Communities Focus Areas

Arizona is home to twenty one federally recognized tribes. Reservations and tribal lands comprise over a quarter of the state. State highways cross many major reservations in Arizona. On most of the major tribal communities, state highways are the primary road network.

The study team recognizes that available statewide crash data underreports crashes on roadways and state highways on tribal communities. However, the degree to which crashes on tribal communities is included in statewide crash databases varies by tribe. Seven tribal communities that have historically reported better crash data for inclusion in statewide crash databases were selected for additional analysis. Nevertheless, the study team recognizes that many crashes on tribal communities are not included in available statewide crash databases. The seven tribal communities that were selected as

- Gila River Indian Community; and
- Hopi Tribe;
- Navajo Nation;
- Pascua Yaqui Tribe
- San Carlos Apache Tribe;
- Tohono O'odham Nation.
- White Mountain Apache Tribe;

An analysis of crash data organized by the seven tribal communities is presented in **Exhibit 4-12**. The Pascua Yaqui does not have a state highway, and the Hopi tribe did not have any crashes on state highways. In addition, the San Carlos Apache Tribe included a report of a single pedestrian fatality that occurred in dark conditions. Locations of crashes on the tribal communities (with exception to Pascua Yaqui and Hopi) are displayed in **Appendix B**

Key findings from the analysis are:

- More than 50 percent of crashes occurred in dark conditions, as opposed to 38 percent of crashes statewide.
- The percentage of crashes in which the pedestrian was reported as "had been drinking" ranged from 37 percent to 67 percent. Statewide, the pedestrian was reported as "had been drinking" in approximately 4 percent of pedestrian crashes.

Additional outreach to the Tribal Communities will be pursued throughout the duration of the project. The following activities have been completed to date with respect to Tribal Communities:

- The topic of pedestrian safety was introduced to the Inter Tribal Council of Arizona (ITCA) Transportation Working Group and the Tribal Safety Working Group;
- The consultant team met with the transportation contacts for the Tohono O'odham Nation, the White Mountain Apache Tribe, and the Navajo Nation;
- Contact was made to the transportation contacts for each of the seven Tribes;
- Surveys were emailed to the transportation contacts for each of the seven Tribes;
- Introductory memorandums were distributed to the tribal leaders with copies to the transportation contacts for each of the seven Tribes;
- The consultant team is on the May 30 agenda for the San Carlos Apache Tribe transportation oversight committee;
- The consultant team is working to set a multi-program meeting with the Gila River Indian Community; and

- ITCA established a Tribal Safety Working Group in March 2008, and the Federal Lands Highway Office convened a Tribal Safety Summit that was held in May 2008. At both of these forums safety issues were identified. The most significant pedestrian issues (mentioned) involved the safety of children (Hopi Tribe, Navajo Nation, Tohono O'odham, White Mountain Apache Tribe, Salt River Pima Maricopa Indian Community). The White Mountain Apache Tribe is concerned about SR 73.

Three Tribal Communities responded to stakeholder surveys, as summarized in Chapter 5. Input received to date from Tribal Communities is that significant issues exist for pedestrian safety, including speeding traffic, poor lighting at night, poor visibility, narrow road widths, vertical and horizontal curves with poor sight distance, no reflective clothing for pedestrians and alcohol and drug use by pedestrians.

Exhibit 4-12 – Summary of Tribal Community Pedestrian Crashes on State Highways, 2002 to 2006, Contributing Factors

Focus Jurisdiction	Number of Crashes	Fatalities	Key Contributing Factor										
			Roadway Control	Pedestrian Action	Day Versus Night Crashes	Physical Condition of Pedestrian	Physical Condition of Driver	Pedestrian Violation	Driver Violation	Driver Action	Age of Pedestrian	Gender	Comments
Gila River Indian Community	7	3	86 % on non-controlled access	29 % walking with traffic	71 % occurred in dark conditions	57 % had been drinking	13 % of drivers had been drinking	57 % attributed to other	38 % no improper driving 38 % unknown	63 % going straight ahead	29 % of pedestrians were age 11 to 20, 29 % age 41 to 50	71 % of pedestrians were female	
Hopi Tribe (1)	-	-	-	-	-	-	-	-	-	-	-	-	-
Navajo Nation	22	17	95 % on non-controlled access	41 % of pedestrians were crossing the road 36 % unknown	82 % occurred in dark conditions	36 % had been drinking	55 % no apparent influence	23 % of crashes attributed to pedestrian not using sidewalk 45 % attributed to unknown	55 % no improper driving 41% unknown	59 % of vehicles moving straight ahead	32 % of pedestrians were age 11 to 20, 27% age 21 to 30	77 % of pedestrians were male	
Pascua Yaqui (2)	-	-	-	-	-	-	-	-	-	-	-	-	-
San Carlos Apache Tribe (3)	-	-	-	-	-	-	-	-	-	-	-	-	-
Tohono O'odham Nation	4	2	100 % on non-controlled access	50 % of pedestrians were crossing the road	50 % occurred in dark conditions	50 % not reported, 25 % unknown 25 % other	50 % no apparent influence	50 % inattention	25 % drove in opposing traffic lane 75 % no improper driving	50 % going straight ahead	50 % of pedestrians were age 21 to 20	100 % of pedestrians were male	
White Mountain Apache	9	6	100 % on non-controlled access	33 % standing 67 % unknown	78 % occurred in dark conditions	67 % had been drinking	36 % no apparent influence 45 % unknown	42 % had been walking against traffic.	27 % no violation, 55 % unknown	27 % avoiding objects	25 % of pedestrians were age 11 to 20 25% age 21 to 30	100 % of pedestrians were male	

Note:

1. No crashes were reported on the Hopi Tribe
2. Pascua Yaqui Tribe does not include any state highways
3. 1 crash was reported on San Carlos Apache Reservation.

4.4 Tier 4 Analysis – Pedestrian Crashes on Specific Segments and Corridors

The next step in the crash analysis is to identify specific higher density pedestrian crash state highway segments and locations. Segments and locations were identified based on density analysis using geographic information system tools and visual review of crash locations. The higher crash segments are listed in **Exhibit 4-13A. Exhibit 4-13B** lists roadway and land use characteristics for each higher crash location segment. **Exhibit 4-14** lists higher crash interchange locations.

Detailed crash analysis for the segments listed in **Exhibit 4-13A** will be performed for segments that are shaded and in bold and presented in *Working Paper No. 2- Goals and Emphasis Areas for Pedestrian Safety*.

Exhibit 4-13A – Higher Crash Density State Highway Segments

Location ID	City	On Road	From	To	Related State Highway	Length (miles)	Number of Crashes	Crashes per mile	Number of Fatal Crashes	Number of Incapacitating Crashes
4C	Flagstaff	US-180	SR-40B (4)	Birch Ave	US-180	0.14	4	28.6	0	1
4B	Flagstaff	SR-89A	University Ave	SR-40B (4)	SR-89A	0.67	16	23.9	1	4
4A	Flagstaff	SR-40B (4)	Riordan Rd	Elden St	SR-40B (4)	1.31	30	22.9	0	9
7	Holbrook	SR-40B (8)	5th Ave	I-40 Exit 286 G-Ramp	SR-40B (8)	1.11	17	15.3	1	2
5	Flagstaff	SR-40B (4)	Arrowhead Ave	Postal Blvd	SR-40B (4)	0.73	11	15.1	1	2
9	Winslow	Hwy 66 (2nd St)	Kinsley Ave	Colorado Ave	Hwy 66 (2nd St)	0.2	3	15.0	0	0
10	Winslow	SR-40B nonCard(6) (3rd St)	Douglas Ave	Williamson Ave	SR-40B nonCard(6) (3rd St)	0.54	8	14.8	0	0
3	Casa Grande	SR-287 (Florence Blvd)	SR-387	Arizola Rd	SR-287	2.51	24	9.6	3	2
6	Flagstaff	US-89	Snowflake Dr / Trailsend Dr	Townsend Winona Rd	US-89	0.58	5	8.6	2	0
11	Sierra Vista	SR-90	SR-92	Giulio Cesare Ave	SR-90	0.99	8	8.1	1	3
12	Yuma	US-95	Alamo Dr	Avenue 3E	US-95	0.62	5	8.1	2	1
13	Yuma	SR-8B (1)	1st St	4th Ave	SR-8B (1)	3.66	29	7.9	1	11
14	Sedona	SR-89A	Dry Creek Rd	Soldier Pass Rd	SR-89A	1.88	14	7.4	3	1
15	Casa Grande	SR-387 (Pinal Ave)	SR-287	Cottonwood Ln	SR-387	1.01	7	6.9	0	0
16	Tucson	SR-86	La Cholla Blvd	16th Ave	SR-86	1.75	12	6.9	0	5
17	Phoenix	SR-101	23rd Ave	19th Ave	SR-101	0.51	3	5.9	2	0
18	Coolidge	SR-87 (Arizona Blvd)	Vah Kilnn Rd	Martin Rd	SR-87	2	11	5.5	0	2
8	Tucson	SR-77	Flowing Wells Rd	Magee Rd	SR-77	7.37	39	5.3	4	14
19	Yuma	US-95	SR-8B (1)	Redondo Center Dr	US-95	0.78	4	5.1	0	2
20	Glendale	US-60	Orangewood Ave	Glendale Ave	US-60	0.69	3	4.3	1	1
21	Tempe	SR-101	Apache Blvd	Southern Ave	SR-101	1.5	6	4.0	1	1
22	Mesa	US-60X (1) / Apache Trail	Signal Butte Rd	Meridian Rd	US-60X (1) / Apache Blvd	1	4	4.0	0	0
23	Mesa	US-60X (1) / Apache Trail	Ellsworth Rd	Crismon Rd	US-60X (1) / Apache Blvd	1	4	4.0	2	1
1A	Bullhead City	SR-95	North Oatman Rd	SR 68	SR-95	6.21	24	3.9	4	8
2	Bullhead City	SR-95	Joy Ln	Camp Mohave Rd	SR-95	2	7	3.5	3	1
1B	Bullhead City	SR-68	SR-95	Davis Dam Rd	SR-68	1.54	2	1.3	2	0
					Total Number of Crashes		**300**		**34**	**71**

Note: Original crash reports were obtained for crashes at segments in shaded bold. The crash reports were analyzed. The results of the analysis is presented in Working Paper No. 2.

Exhibit 4-13B – Higher Crash Density State Highway Segments Roadway and Land Use Characteristics

Segment Code	AADT	Number of Lanes	Bicycle Lane	Sidewalks	Median	Posted Speed Limit (mph)	Illumination	Adjacent Land Use	Building Setback	Crosswalk Locations	Bus Stop Locations
1A	32,598	4	None	Yes	TWLT Median	45	Good	Most commercial, open space in middle segment	Majority > 25'	Only at intersections	None
1B	13,041	4	None	Only for a short segment of WB	Majority raised median, a small segment of TWLT median	45	Poor	Open Space	N/A	Only at intersections	None
2	30,169	4	None	None	TWLT Median	45	Poor	Commercial / Open Space	Majority > 25'	Only at intersections	None
3	25,089	4	None	Yes	Majority TWLT median, a short segment of raised median	35 / 45	Good	Most commercial	Majority > 25'	Only at intersections	None
4A	38,293	4	None	Yes	TWLT Median	30	Good	Majority commercial, some open space	Majority < 10', next to sidewalk on WB	Only at intersections	None
4B	35,000	4	None	Yes	TWLT Median	35	Good	Most commercial	Majority > 25'	Only at intersections	None
4C	14,790	2	None	Yes	TWLT Median	25	Good	Most residential	Majority > 15'	Only at intersections	None
5	27,431	4	None	Yes	TWLT Median	40	Good	Commercial on WB, open space on EB	Some at 20', some next to sidewalk	Only at intersections	None
6	26,389	4	None	Yes	TWLT Median	45	Good	Commercial / Open Space	Majority > 25'	Only at intersections	None
7	11,066	4	None	Yes	Majority TWLT median, one segment without median	35	Good	Commercial / Open Space	Next to sidewalk in downtown, others > 25'	Only at intersections	None
8A	40,189	4, 6	Yes	Yes	Raised median	40	Good	Most commercial	Majority > 25'	Only at intersections	Oracle Road
8B	52,062	6	Yes	None	Raised median	45	Only at intersections	Commercial / Open Space	Majority > 25'	Only at intersections	Oracle Road
8C	55,059	6	Yes	None	Raised median	50	Only at intersections	Commercial on SB	Majority > 25'	Only at intersections	None

Exhibit 4-14 – Higher Crash Density Interchange Locations

Code	City	On Road	From	To	Related State Highway	Number of Crashes	Number of Fatal Crashes	Number of Incapacitating Crashes
9	**Phoenix**	**32nd St**			**SR-202 Interchange**	**5**	**0**	**2**
15	Phoenix	43rd Ave			I-10 Interchange	3	0	2
16	Phoenix	7th Ave	I-10 Exit 144 X-Ramp	I-10 Exit 144 P-Ramp	I-10 Interchange	2	0	2
10	**Phoenix**	**Bethany Home Rd**	**I-17 Front SB -0.08**	**I-17 Front NB +0.09**	**I-17 Interchange**	**5**	**1**	**1**
17	Phoenix	Cactus Rd	28th Dr	25th Ave -0.05	I-17 Interchange	4	0	2
11	**Phoenix**	**Camelback Rd**	**I-17 Front SB -0.08**	**I-17 Front NB +0.09**	**I-17 Interchange**	**6**	**1**	**0**
12	**Phoenix**	**Dunlap Ave**	**I-17 Front SB -0.07**	**I-17 Front NB +0.09**	**I-17 Interchange**	**7**	**0**	**2**
18	Phoenix	Glendale Ave			I-17 Interchange	3	0	1
19	Phoenix	Greenway Rd	I-17 Front SB	I-17 Front NB	I-17 Interchange	3	0	2
13	**Phoenix**	**University Dr**			**SR-101 / SB Price Rd Interchange**	**9**	**1**	**3**
20	Phoenix	Thomas Rd			SR-51 Interchange	2	0	2
21	Phoenix	Thunderbird Rd	I-17 Front SB -0.15	I-17 Front NB +0.19	I-17 Interchange	4	2	0
22	Phoenix	43rd / Camelback			US-60 Interchange	4	1	0
23	Tempe	Apache Blvd	SR-101 -0.06	SR-101 +0.08	SR-101 / SB Price Rd Interchange	3	1	1
14	**Tempe**	**Baseline Rd**	**I-10 Ramp SB**	**I-10 Ramp NB**	**I-10 Interchange**	**5**	**0**	**0**
24	Winslow	North Park Dr			I-40 Interchange	4	1	1
25	Winslow	Hipkoe Ave			I-40 Interchange	3	1	1
26	Phoenix	Indian School Rd			I-17 Interchange	4	1	0
					Total Number of Crashes	**76**	**10**	**22**

Note: Original crash reports were obtained for crashes at segments in shaded bold. The crash reports were analyzed. The results of the analysis is presented in Working Paper No. 2.

5.0 PEDESTRIAN SAFETY SURVEYS

The document *How to Develop a Pedestrian Safety Action Plan* suggests that public stakeholders should be seen as useful partners in bringing information and judgment to the table. The public can serve as "on-the-ground scouts" who can identify problems, needs, and opportunities. To solicit input and perspectives from stakeholders regarding pedestrian issues, conditions, and concerns on the state highways two surveys were conducted: (1) survey for the general public, and (2) survey for staff of local agencies and jurisdictions. The purpose of the surveys was to gain input on walking patterns and to identify general issues and concerns related to pedestrian safety at specific locations on the state highways.

The public survey requested input on how pedestrians felt when walking along state highways, how often they walked, and what barriers existed.

5.1 Survey for the General Public

A copy of the survey for the general public is provided in **Appendix C**. The survey was posted on the ADOT Bicycle and Pedestrian Program website, http://www.azbikeped.org/index.html. The survey could be filled out on the website or printed out and subsequently submitted via mail or fax. In addition, the survey was disseminated to the project Technical Advisory Committee members, and to the ADOT Bicycle and Pedestrian Program email notification/distribution list. A press release was also issued inviting the public to participate in the survey.

As of May 15, 2008, there were 70 respondents to the public survey, which was posted online for approximately a one-month period. A summary of the responses to each question is summarized as follows:

1. **The first question asked for voluntary respondent information, which is not summarized here.**

2. **Do you walk on, alongside or cross any roads on the State Highway System?**

Response	Response Percent	Response Count
No	48.5 %	33
Yes	51.5 %	35

Response to question 2 indicates that approximately half of the survey respondents walk on, alongside, or cross roadways on the state highways.

3. **How often do you walk on, alongside or cross the state highway roads? (please count each round trip as one trip)**

Response	Response Percent	Response Count
Walk at least daily.	21.4 %	9
Walk at least once or more per week, but less than once per day.	31.0 %	13
Walk at least once or more per month, but less than once per week.	19.0 %	8
Walk very rarely.	28.6 %	12

Response to question 3 indicates that the survey respondents walk on alongside, or cross the state highways to a varying extent. Approximately 21 percent of the respondents walk daily, and 31 percent of respondents walk on or across state routes at least once or more per week.

4. **On average, approximately how far do you walk when you walk on, alongside, or cross the state highway roads?**

Response	Response Percent	Response Count
1/4 mile or less (several blocks or less)	24.4 %	10
Between 1/4 mile and 1 mile	26.8 %	11
Between 1 and 2 miles	17.1 %	7
More than 2 miles	14.6 %	6
I simply cross the state highway	17.1 %	7

These data indicate that the majority of respondents use the state highways for walks that are one mile or less.

5. **What is the purpose of your walking trips on the state highway roads?**

Response	Response Percent	Response Count
Work	14.3 %	6
School	2.4 %	1
Errands	35.7 %	15
Social	26.2 %	11
Recreation/Exercise	71.4 %	30
Other	31.0 %	13

Most of the survey respondents walked for recreational or exercise purposes, comprising approximately 71 percent of those responding to this questions. Note that respondents could select more than one trip purpose category.

6. **If you checked work in question #5, how far do you live from your work?**

Response	Response Percent	Response Count
0-1 mile	10.5 %	2
1-2 miles	10.5 %	2
2-5 miles	36.8 %	7
6-10 miles	15.8 %	3
11 or more miles	26.3 %	5

Most of the survey respondents walking for work (or other) trip purposes lived 5 miles or less from work.

7. If you checked school in question #5, how far do you live from your school?

Response	Response Percent	Response Count
0-1 mile	50.0 %	6
Greater than 1 mile	50.0 %	6

Half of the respondents to this question live less than one mile from school.

8. If you answered NO in question #2, (you don't walk) why don't you walk on, alongside or cross the state highway roads? Please check the top three reasons that you don't walk or don't walk more often to reach your destination.

Response	Response Percent	Response Count
Concerns about safety	74.4 %	29
Lack of walkways (e.g. sidewalks/multiuse paths/trails/shoulders) to walk on	59.0 %	23
Vegetation too high	5.1 %	2
Weather	10.3 %	4
No lighting/too dark	23.1 %	9
Destination too far	33.3 %	13
Other (Please list and describe any other reasons)	46.2 %	18

The top reasons for not walking on the state highways involved concerns about safety. Almost 75 percent of respondents listed this as a reason. Lack of walkways was another reason listed by almost 60 percent of respondents. Other reasons that were listed by respondents are:

- Fast moving vehicles. No pedestrian buffer zone.
- Too old to walk much and I'm disabled.
- It is impossible to walk down the main roads in Tucson without being harassed by homeless people or wondering if you're going to be the next victim of a random gang drive by. This is a beautiful city and I would love to be able to walk through town more, but I would never feel safe doing so.
- No protection from motorists that are on the phone, reading the paper, reading a book, eating, yelling at their kids, and just plain not paying attention to driving. This applies to not only highways, but ALL of Arizona's roads. Too many people view the shoulder and bike lanes as just extensions of the travel lane. Paint is NOT a deterrent!! Neither are rumble strips. By the time they hit rumble strips, it's too late. There needs to be a more solid, pedestrian protecting barrier. Something that, when they hit it, they don't want to ever hit it again. It's the only way to get many of these drivers to sit up and pay attention to what they're doing.
- No reason to.
- I ride my bike everywhere... seldom walk.
- Use assistive device for walking and doesn't work well on those highways.
- I am especially eager to offer suggestions for making pedestrian travel safer in the city of Tucson. I walk and use public transportation. One does not realize how unsafe it is for pedestrians until one IS a pedestrian. Drivers tend to be unaware and do not seem to anticipate pedestrians. When local input is needed, please contact me.
- Noise

- In cases that I walk, my way does not go along state highways, but only along local streets.
- Have known people to get injured by cars.
- Anklam Road is used by a lot of bicyclists. The road is narrow which makes it a challenge at times to drive around them. There are times that I have to slow down until the other car passes and I can safely pass the bicyclist. Anklam Road between Greasewood and Speedway. Also, Speedway from Gates Pass going east is very narrow and dangerous for bicyclists.
- Don't feel safe unless there is a traffic light.
- Safety is the biggest issue. When I have walked along the roads (many, many years ago), motorists whistled, made obscene comments, shouted at me, etc. The roads simply don't feel safe for a single female to walk along.
- My concerns are with the streets in Tucson, because that is where I live. I wish this survey had more questions about CITY streets. I must say when I am driving on some of the state routes, the lighting is dim or nonexistent at night, so pedestrians aren't seen; and there are very few places for them to cross.
- I do not live near them (2 responses).

9. Are you aware of any specific pedestrian safety issues on the state highway roads within or near your community, town, or city? Please describe as specifically as possible, including mileposts, landmarks, or intersections as appropriate. Refer to ADOT's website for maps showing ADOT maintained roads and mileposts.

Responses were received for question 9 regarding state highways in Cottonwood, Flagstaff, Globe, Kingman, Maricopa, Prescott, Sonoita, Tucson, St. David, Scottsdale, Sedona, Tuba City, and Yuma. Specific state highways mentioned were:

- Cottonwood - Highway 260 /Prairie Lane
- Flagstaff - parts of 180 and 66 and generalized need for more mid-block crossings
- Globe area – routes from Superior to Globe and Globe to Showlow
- Kingman – Route 66 at Mileposts 59, 60 and SR 93.
- Maricopa –SR 347 , between Mileposts 160 and 170 and on SR 247 and 238
- Prescott- SR69
- Sonoita – SR82 and SR 83- crosswalks are too far apart.
- Tucson – SR 77, north of River- no sidewalks serving bus stops, and pedestrian lights are too short near the Tucson Mall. Between Ina Road and Orange Grove Road –need sidewalks. Need pedestrian light at Los Altos and Oracle Road.
- St. David – SR 80- speed change from 75 to 50, just south of mile marker 303.
- Sedona – Roundabout at SR 179, SR 89A needs more frequent crosswalks. Lighting noted as a general concern.
- Tuba City – Shoulder maintenance on SR 160, and rumble strips are difficult to walk on. Shoulder needs on SR89.

Comments that were submitted are listed below. A summary of the responses to question 9 is provided in **Exhibit 5-1**, by geographic area.

Exhibit 5-1 – General Public Comments on Pedestrian Deficiencies by Geographic Area

Geographic Area	Comment
Cottonwood	Highway 260 and Prairie Lane. There is no way to get from Prairie Lane toward town without walking/riding/jogging way out of the way or on the highway. There is no sidewalk from Prairie to Western (Eastern?) on 260.
Flagstaff	Bikes and pedestrians both have to use the sidewalk to be safe from cars on parts of 180 and 66. This makes it difficult for both walkers and bikers. (Flagstaff downtown and western areas of Flag).
	The Flagstaff roads in the winter, as a whole, are not well maintained. The bike lanes become snow dumps and when the snow has melted, the roads are severely torn up. Also, the bike lanes accumulate cinders and rocks making them unsafe to bike in.
	The distance between controlled intersections - safe places to cross - is often 1/2 mile or more, even in town. This makes it very likely that pedestrians will cross in less than desirable settings.
Globe	My main concern for coming to this site to find a place to file a complaint is this. Recently there was a bicycle tour group that rode through our area. Superior to Globe, Globe to Showlow. The road there would be easily characterized as narrow and curvy. The traffic easily considered heavy and with big trucks. And the drivers easily characterized as in a hurry. And ADOT allows bicycling through these areas. Not just individual, but groups. This is very dangerous and is only a matter of time until someone is killed. Don't wait until this happens to stop these cyclist and route them to better roads. How they feel safe on these routes is beyond me. Please intervene. It would be a shame for some unsuspecting motorist to round a corner and find a bicyclist in the way and nowhere to swerve because of oncoming traffic. And hit the cyclist. Again this safety issue is beyond be why ADOT hasn't done something about this obvious problem.
Kingman	Along highway 93 and 66 (Andy Devine Ave, Beale St) there are few bike lanes. on highway 66 (Andy Devine the sidewalks end before Airway Ave on the east bound side(no bike path at all). after airway there is only right turn lanes(try riding a bike or walking in that, and a steep shoulder off the side. there is also NO safe crossing after Armour Ave. try crossing at airway, its forever across and if you're not running, then hopefully you have a note in your pocket. something is needed through Kingman for bicycles along 93/66 and, if possible, I-40.
	Dick Tomlin's death on Route 66- was on bicycle, Sam Shepherd struck by a vehicle at milepost 60 on Route 66, and Catherine M. Querta of Peach Springs was struck and killed by a vehicle at milepost 59 on Route 66.
Maricopa	I live in Maricopa, AZ. I am concerned about my safety when riding on Hwy 247 and HWY 238 all the time. I won't let my teenage children cross or walk on these roads when going to and from school because there is a lot of traffic and trash trucks that travel these roads during the day time. There is not enough sidewalks or non-existent sidewalks for them to go to school safely. If they do walk home I make them cross the field and over the railroad tracks to avoid the traffic on the roads. But then I worry about them crossing the tracks where there is no designated crossing. When I ride or cross these highways, I ride only a short distance to get to another less traveled road so I can be safe when I exercise. I wish there were more sidewalks so the children who ride their bikes or walk to school, could stay off the busy roads. I only live a mile away from the middle school and high school so it is a shame that I can't let my children walk or ride their bikes to school. There is a big problem at the intersection of HWY 347 and Honeycutt Rd. in Maricopa. I don't even like driving my car past there in the morning or afternoon because of the backed up traffic. I realize that some of these problems are really the city of Maricopa's, but also I realize that these are state highways that need some attention. HWY 347 is way too busy for me to want to ride my bike on it. Too many people going way too fast.

Exhibit 5-1 – General Public Comments on Pedestrian Deficiencies by Geographic Area (continued)

Geographic Area	Comment
Maricopa	SR347 is extremely dangerous - it runs through the City of Maricopa. Anytime of the day it is extremely difficult if not impossible to cross let alone walk or ride a bike. There are no crosswalks or signals that assist pedestrians to cross the road and no sidewalks. The whole stretch of this road is a problem - from both ends of the City boundary. There have been numerous fatalities within the city limits and too many close calls to count.
	Between post 160 and 170 there are only 3 maybe 4 protected crosswalks to cross SR347. Near the RR tracks there are no sidewalks to speak of and there is no pedestrian blocks at the RR tracks.
Prescott	There is very little accommodation along SR69 from Prescott down to shopping malls (Frontier Village and Gateway Mall). I'm award of the coming multiuse pathway to Frontier Village, which is great. But that is only one side of the road I think? Crossing SR69 is difficult. SR89 also has little accommodations (especially as it heads out of the downtown area); mostly just dirt shoulders.
Sonoita	There are no crosswalks at the Sonoita Crossroads SR 82 or SR 83 In Patagonia the crosswalks are too far apart and only on one corner at 2 intersections and none at the school at the intersection of 1st Ave across the SR 82 to a foot path on the south side of the highway. There should be a well marked crosswalk at each corner crossing SR 82. A crosswalk should be painted across the SR 82 midpoint (+/-) between the 2 existing crosswalks. Most motorists (and law enforcement) ignore pedestrians' rights in Patagonia (& Nogales and Tucson). Either a traffic calming device(s) or other significant method should clue motorists to yield for pedestrians. To the south of Patagonia on SR 82 at what is referred to as the Rock Fall / Shrine historical marker area - about MP 16 - are 2 turnouts for automibiles. This is big migratory areas and touristas come from all over the world to observe the birds. In the process of observation they cross the highway. A crosswalk and appropriate signage at this location will help ameliorate the close calls.
Tucson	I live 12 miles from work and would love to walk or ride my bike. However one of the main roads between me and my job is Lambert Lane between Thornydale and La Canada. There has been plenty of work done on this stretch of road but for some reason, no bike or walking path was ever created.
	I am a City Planner and a Landscape Architect. I am a professional City walker. I walk a city to get the feel and see what it is like to be a pedestrian. 89 in Flagstaff was fine. The sidewalks were wide and kept clean and were well lit. It was scary, but I felt okay in town. Tucson is a different story. I have never been in such a worse City. I am 60 and walked many cities. As a pedestrian and driver, I am scared to death of hitting someone or being hit. Since I am only addressing State Highways, I will say that the problem is with the pedestrians mainly on Oracle. They are drunk, homeless, old, fearless. They cross anywhere at any time. I don't think more cross walks will solve the problem, because they don't use them. They wear black at night and don't use cross walks. You wonder why they are killed? If you are a reasonable person and use a cross walk, I think you are fine on Oracle. Then there are the "scooters" they are in the same fearless category. Are they pedestrians? I would love to serve on any committee for you or the City of Tucson to address these issues.
	It is impossible to walk down the main roads in Tucson without being harassed by homeless people or wondering if you're going to be the next victim of a random gang drive by. This is a beautiful city and I would love to be able to walk through town more, but I would never feel safe doing so.
	No sidewalks serving the bus stops along SR 77 especially north of River Road. The drop-offs are a safety hazard

Exhibit 5-1 – General Public Comments on Pedestrian Deficiencies by Geographic Area (continued)

Geographic Area	Comment
Tucson (continued)	I travel all over Tucson. What I see that disturbs me are pedestrians walking with traffic instead of against traffic wearing dark colored clothes. 03/24/08 on Silverbell road between Sweetwater and Goret at about 0545, two people in dark clothing were walking on my side of the road. They had reflective shoes. All I could definitely see were 4 metallic silver objects moving at the side of the road. I figured out that those were shoes. I was almost parallel to them before I could distinguish they were people. Last Saturday on River, between La Cholla and La Canada, a woman was jogging with a large dog. There was no west bound traffic and so they started running across. However, when they got to the median, the woman had problems controlling the dog who tried to run through east bound traffic. I slammed on the breaks. Luckily I didn't hit either one. I constantly see bikers running red lights on Oracle Road. Mostly on weekends when I've been out hiking. Bikers change lanes, sometimes without looking. And of course we have the drunk drivers. But yesterday at approximately 1545 under the I 10 underpass at Ruthrauff eastbound, there were 3 cars waiting for the train to pass. The reckless driver in front of me somehow managed to squeeze between the car in front and the car in the left turn lane. He then turned left in front of the cars in left turn lane and sped up the on ramp. He never looked to see if northbound traffic was coming across the intersection on the flashing red. There are often pedestrians in the underpass. Homeless? Two other bad places for bikers are the Catalina Highway and Gates Pass road. Especially on the Catalina Highway, they ride 3 abreast. If you are driving up or down and come to a blind curve, you could kill someone. The Sheriff's patrol is spread too thin to catch all these guys. The same thing happens on Gates Pass road.
	There is a serious safety issue with the increased amount of north/south traffic on SR-77 (Oracle Road) between Ina Road and Orange Grove Road. I have previously requested that the ADOT obtain funding to install a pedestrian-invoked light at Los Altos and Oracle to provide a safe method of crossing the road. This was about 2 years ago when the public was invited to provide suggestions on spending some Federal Grant Funds. The traffic has increased since that time, with the increasing build-out of Oro Valley. In addition, there are no sidewalks between Ina Road and Orange Grove, so pedestrians must walk along the shoulder of the road. This is also not a safe thing. With the increased cost of gas, more and more of us are walking (also with health benefits), so I believe that anything that you can do to improve the safety in this small, chokepoint corridor would be greatly appreciated!
	Since there is no place for my concerns, I will put some of them here. I both drive, take the bus and walk in Tucson. In recent months there have been quite a few accidents and 2 deaths on the stretch of E. Broadway between Sarnoff and Houghton. There are NO street lights on E. Broadway between Sarnoff and Camino Seco (about a mile). There are very few street lights on E. Broadway between Pantano and Houghton and east of Houghton. I have driven that road many times and at night it is VERY hard to see anyone. That needs to be fixed. There are many parts of Tucson that have little or no lighting and one of the reasons is because of the observatory. While I realize that is important, Tucson has a million people and more adequate lighting needs to be installed on main streets and in the neighborhoods. The traffic lights often times don't give a pedestrian enough time to get across even if they were in a dead run. Frankly, it is dangerous to cross streets here because of the lighting, the poor traffic light timing and of course, the attitude of many drivers---pedestrians are targets. Too many pedestrians have been killed in the last few years. This issue should not be ignored.
	As with our City streets, the state highways would be much safer if people were actually required to adhere to the speed limit. No 10 mph "window" as allowed by TPD, no raising the limit higher because "the majority of people" are speeding.
	Wetmore Road not enough pedestrian crossings by Tucson Mall. Pedestrian lights are too short for even a fast pedestrian running. What should a less agile person do?

Exhibit 5-1 – General Public Comments on Pedestrian Deficiencies by Geographic Area (continued)

Geographic Area	Comment
	Ajo Highway and the intersection with Kinney Rd. is perhaps the most dangerous intersection in southern Arizona. The speed limit on Ajo is 55 mph and with no stoplight from La Cholla all the way to Kinney people will sometimes hit close to 100 mph at the most and 65 mph on average as they converge on the intersection. Last year there was an incident at that intersection involving a sheriff and a schizophrenic man that led to the death of those two and another person as they were hit while fighting across the intersection of Ajo and Kinney. On a personal note my grandfather was killed in a rollover car crash on the same Ajo Highway just west of milepost 81 on his way to Rocky Point. I personally visit the site of his death where we put up a cross to clean it and honor his memory. All along the way from Ajo and La Cholla to milepost 81 there has to be at least 100 crosses alongside the road. It is perhaps the most dangerous stretch of highway in Arizona. Once it gets to two lanes it gets even more dangerous. Something must be done about this highway. With all the traffic it has now it should at least be two lanes in each direction, with a median.
	1) Lack of walkways/sidewalks in most cases 2) Signalized intersections that fail to give pedestrians (especially elderly)sufficient time to cross 3) Lack of drivers' licensing process that renews/reviews laws and changes to laws (to permit drivers to not renew their licenses until they are 65 is virtually criminal)
St. David	Going west on SR 80 you change speeds from 75 to 50 just se of mile marker 303. Very few drivers go the speed limit most go way over. Most don't slow to 50. Closer to the Hwy maintenance yard the speed limits drops to 35. Dream on if you think driver's do that. Also the road is only 2 lanes and narrow. The large RV's have such a hard airdraft when they go by that not only do I have to hold on to my hat but a couple of times it almost knocked me over. When cars are going in the opposite direction and are passing they come so close that if I had my arm out it would have been struck. Driver's don't give bike riders room. Kids walking are in danger. Te lanes are not wide enough to give room to safely pass the bikes. There are NO Signs warning of pedestrians and bikes just a sign coming from Benson saying watch for animals next 114 miles. We need sign warning about the need to share the road!
Scottsdale	Yes, I live near Chappel Park where there are many walk/ bike paths.
Sedona	Yes. The lighting issue in Sedona.
	Yes, the Sedona Streetlight issue. I think it's ridiculous and extremely wasteful to have more streetlights. Already you can't see half the stars you did 10 years ago here. It's ruined. Now if someone wears dark clothes at night crossing the street, what do they expect? Are they drunk too? Why are you responsible? It's insane. I was hit by a car when I was young and it was my fault. I was lucky to live. I'm careful now. They should be. Should we have hand holders manning every corner? If you must have light, then why not crossing lights that light up the walkway when someone pushes a button. Or maybe you could put 1000s of Chinese to work if you invested in a flashlights for pedestrians program.
	Bike lanes would be extremely helpful as sometimes bikes are on the sidewalks. I understand the desires of both pedestrians and cyclists to be safe.

Exhibit 5-1 – General Public Comments on Pedestrian Deficiencies by Geographic Area (continued)

Geographic Area	Comment
Sedona (continued)	I use the roundabout to cross 179 every day. I have counted the number of times that cars do not yield to pedestrians who are entering the pedestrian crossing. It has been my experience that 2 out of three cars do not yield to pedestrians as they approach the crosswalks. The pedestrians have a choice at this time, they can either stop and yield the right of way to the car. Our hope that the diver will yield the right of way to them. I suggest that ADOT needs to change the cross walk signs to add the word yield to the sign. Also some of the current cross walk signs are misplaced or misaligned to highway 179. For example the cross walk at 179 and Cortez Dr has a sign that is parallel to the north bound lane of 179 and the signage faces due east. Nobody driving north on 179 can even see the face of this sign. The pared sign post across 179 only guilt, is that it has no sign on it at all. To my knowledge I have not seen traffic surveys of the number of times cars have penetrated the pedestrian right of ways. It happens to me enough that I suspect the percentage would show some risk to those in the cross walk.
	SR-179 is under construction now, so sidewalks are not complete. SR-89a is a very wide road with marked crossings at distant intervals.
	Yes. Pedestrians are at risk of being hit by cars pulling out of business driveways. I've seen it happen. Too often people on bicycles run you down when you're walking on the sidewalks. I always believed that sidewalks are for pedestrians and that bicycles had to follow the law of motorists. Bicycle riders often ignore the rules of the road. They never stop at red lights and run the risk of being hit by red light runners or right on red drivers. I grew up in Michigan where bicycles were licensed and registered. We had to take bicycle safety and learn the rules of the road. Why can't that be done in Arizona?
	New sidewalks completed here in Oak Creek, but pedestrians cross in mid-block.
Tuba City	Rumble strips on 160 near Tuba City are hard to walk on and they are in the center of the shoulder. Shoulders around some cities such as Tuba City are not swept and cleaned. Trash and broken glass are unsightly. Shoulders on SR-89 come and go--dangerous walking around Cameron north.
Yuma	There is an issue with the last major street just before the West Wetlands Park that we need to cross. I think it's 2nd, but I'm not positive. It's the ONLY STREET where the PEDESTRIANS and CYCLISTS have a STOP! (We have never heard of such a thing). We thought it was a mistake the first time we crossed, until we almost got HIT! Why is there not a stop sign and Cyclists Warning Sign like the one on 8th and the Canal?
General Comments	High speed traffic and no notice to motorists to beware of pedestrians or bicyclists.
	Drivers unaware of pedestrian rights.
	Any where cars go fast, pedestrians aren't safe.
	Yes! Sometimes while walking, some motorists will intentionally weave onto the shoulder as if to strike me with their vehicle. These are malicious acts by a very few, probably intoxicated individuals. Also have had bottles, eggs, and other debris thrown at me both while walking and biking. All above mentioned state highways.

10. The ADOT Pedestrian Safety Action Plan may result in recommendations for improvements to pedestrian improvement projects on state highways. Which of the following should be used to prioritize the construction of pedestrian improvement projects on the state highway roads? Please check three.

	Response Percent	Response Count
Safety- address locations where pedestrian crashes have occurred	48.5 %	33
Safety- address locations where pedestrian crashes are likely to occur	57.4 %	39
Complete missing pieces of sidewalk- create longer continuous sidewalks	47.1 %	32
Attracts the most users- build facilities that will serve the most users	25.0 %	17
Connections- facilitate pedestrian travel to shopping, restaurants, and other services	52.9 %	36
Equity- spend equally in various regions of the state	13.2 %	9
Transit- increase easy walking to transit	25.0 %	17
Schools- build projects near schools and that access school bus stops	35.3 %	24
Maintenance- maintain existing sidewalks and paths	30.9 %	21
Other factors you would like to see considered	44.1 %	30

The top criteria that were identified by respondents included safety considerations (addressing locations where pedestrian crashes are likely to occur as well as where they have occurred), sidewalk connections to facilitate pedestrian travel, and providing missing pieces of sidewalk to create longer continuous sidewalks. Approximately 30 other comments were listed, of which safety, connectivity; cost effectiveness, lighting, and enforcement were also mentioned. Education of drivers and pedestrians were also mentioned. Comments that were submitted under "other factors you would like to see considered" are listed below:

- Roads should reach a certain criteria to allow cyclist to tour on as large groups. If one exists, Superior to Globe should be reevaluated.
- I live 12 miles from work and would love to walk or ride my bike. However one of the main roads between me and my job is Lambert Lane between Thornydale and La Canada. There has been plenty of work done on this stretch of road but for some reason, no bike or walking path was ever created.
- Bike lanes to give cyclists a safe place to be other than sidewalks, as sidewalks should be for pedestrians. However, if there are no bike lanes, cyclists have no choice but to use sidewalks in some areas.
- The financial arena--how much is the cost? Getting the biggest bang for the buck. Need to make it easier for alternate modes of transportation. Safety is factor number one! Realizing that travel by vehicle--gas powered--is not getting less expensive. Encourage people to walk!
- Money should be spent to improve conditions where most of the deaths and injuries occur - forget the state highway system it is not meant for walking - city streets are where the problems lie. (remainder of comment deleted)
- An education program to promote right of way rules for drivers and pedestrians.
- Get the drunks homeless and mentally ill to wear reflector vests that light up at night.
- What about bicycling issues? This was supposed to be regarding bike and ped issues!
- General improvement of personal safety in Tucson.

- An overall plan that allows people to get around an entire city safely. With the price of gas continuing to rise, more people may either be enticed or forced (due to lack of funds) to take pedestrian routes to get around town. It would be more inviting if there were a safe way to do that to/from as much of the metro as possible. Protection -- pedestrian use will increase naturally if pedestrians feel they are adequately protected from speeding vehicles. Not just at crossings and such, but all along the route. This doesn't have to be done with concrete and/or steel. It can be done with cleverly placed vegetation, which can also provide relief from the sun.
- There has been TRASH and DEBRIS, including SUPERMARKET CARTS in the CANAL for YEARS and NOONE seems to care about this. I don't think it's HEALTHY for people or ANIMALS living near and around the CANAL, and is definitely NOT GOOD for TOURISM!!!
- I do not walk along any State Routes.
- Wake up! City streets aren't the only places you'll find pedestrians. The amount of traffic and the needs should be considered. Someone new to the area driving on a narrow highway doesn't realize that people have to walk or bike on that hwy. They think they're driving on an interstate. Put some sign's up!
- Education of pedestrians to walk facing traffic on rural roads without sidewalks. Stricter enforcement of existing speed limits on roads often frequented by pedestrians.
- Make the roads more user friendly for those who ride/walk to and from work, for leisure and for exercise. Allow for the opportunity to use roadways for more than just driving a car.
- I don't think paved sidewalks are needed in many places. Maintained paths of the roadway are sufficient and useful for bikes and pedestrian. Lighting in dark areas are another safety factor.
- Because it is not against the law in Arizona to ride your bicycle on the sidewalk that all sidewalks are made wide enough for both pedestrians and walkers. Sidewalks in Sedona are only wide enough for two people walking side by side.
- Bike lanes & pedestrian crosswalks with a light should be included in future construction and projects.
- Tucson is doing its share with the development of the HAWK see USA Today Monday, February 25, 2008 page 13A), but more needs to be done to get poor or DUI drivers off the roads. ADOT must include DMV, Legislature, enforcement and courts. This pedestrian safety issue is not just a highway design or traffic control device problem, but a road user problem--the cyclist, pedestrian and driver must also be considered. Generally, the ADOT highways are "safe" but the road user does not use adequate care when using the road, uses poor judgment, makes unsafe decisions or is impaired by alcohol or drugs. Under these operations no "roadway" can be safe, these drivers make the road unsafe, and they are a danger to others and themselves. FHWA is very correct in their assessment of the pedestrian concerns, "Engineering countermeasures can only go so far if you have people engaging in activities that put lives at risk." Tamara Redmon FHWA TM+E June/July 2003 "Fixing America's Pedestrian Safety Problem"
- Safety, safety, safety- where there have been crashes, where they are likely to occur (high usage, schools, etc.) and in an equitable manner, not just the big cities!
- Safety in roundabouts.
- Personal safety issues. (remainder of comment omitted)
- Continuous, uninterrupted walkways and bikepath along state highways!
- This is a second request for a pedestrian crossing light, and first for sidewalks. I hope that you will provide support to this request.
- I have no idea how you can convince pedestrians, bikers, drivers to follow the rules of the road. There are not enough eyes and handout there to stop people who do stupid things and convince them of the error of their ways.
- General improvement of personal safety in Tucson.

- I'm answering more than was asked for, but something needs to be done to relook at all our walk and bike paths. There are a lot of factors that should be considered when developing a sound pedestrian/bike path. Location, safety, viability, to/from, usability, maintainability, etc. In my answer above, I focused on the highest traffic locations such as schools, and then on locations were reports of crashes have occurred which to me meant that these locations were being used. This is not to filter out those areas not being used because perhaps there is no adequate walkway/bike path in place. Our transportation (pedestrian walkway and bike paths) are inadequate. If you're lucky, you have a 2-4 foot area next to the main road which is considered a bike path, sidewalks start and stop in areas... these are all safety risks for pedestrian and bicyclists as we are forced next to high moving vehicles. Where I lived previously, they had a separate section a few feet in from the road separated by brush or rocks, etc. This section was a path divided by paint into a bike section and a walk way section. This provided more safety for bicyclists and pedestrians from being struck by vehicles since it was not adjacent to the main road. To revamp to such a system would more than likely not be possible given the $$$ requirement. However, a hard look at the existing system is needed. In some areas, there are sidewalks (such as Rita Ranch). However, the roads do not have an adequate section for bicyclists which is cause for concern as a parent. I would request my child ride on the sidewalk to avoid the more likely chance of being hit by a vehicle in the street. In addition, crosswalks are becoming more hazardous. Drivers are ignoring the law and not stopping and yielding to pedestrians, and are becoming more aggressive, impatient, careless, and distracted with such things as using cell phones, etc. They are not being held accountable for their actions. For instance, I called a week before a deadly crash to complain about a girl in a crosswalk almost being hit by 2 cars that didn't stop for her while she was crossing. This was at the crosswalk at Esmond Loop in Rita Ranch. Needless to say nothing was done and a week later a 12-year girl was struck and died at the exact same crosswalk because a motorcyclist failed to yield to her while she was crossing (exact same behavior of failing to stop which I had called about). Had a motorcycle cop or some other action been taken, this 12-year old girl probably would probably be alive today. http://www.vailsun.com/articles/2008/03/04/news/news2.txt. A solution for crosswalks is needed. This could be improved with stop sign or a light that changes when a pedestrian pushes the button. However, until some drivers change their driving behaviors, this won't totally fix the entire problem. It will be difficult to implement any kind of total solution until drivers are held accountable for their actions. For instance, those that run red lights or go through stop signs or disregard pedestrians or bicyclists.
- Please look into the fact that pedestrians are not the same as motorists and that unfortunately kids do not understand that when they are on bicycles that they are under the same laws as motorists. I have heard on the news about bicyclist referred to as pedestrians and they are not. I'm very saddened for families like the Rincon's who son did nothing wrong. But unfortunately there have been a lot of accidents where the children have been wrong because they were in the wrong but they did not know the laws. Unfortunately the parents of the children have had to pay the penalty in fines; this is something that needs to be addressed.
- Pedestrian crossings more often too far apart. (remainder of comment deleted)
- Maricopa, Arizona is a growing community with a lot of people commuting to and from the Phoenix area. We need all the help we can get to keep up with the population expansion.

5.2 Public Agency Surveys

A survey for public agencies was conducted in order to learn more about roadways under Arizona Department of Transportation's (ADOT) jurisdiction from state, county, municipal, and tribal governments, and advocacy groups. The objective of the survey was to learn where improvements need to be made to the ADOT roadway network to make them safer for pedestrians. A copy of the survey is provided in **Appendix C**. An email invitation to complete the survey was disseminated to all

incorporated agencies and jurisdictions in Arizona. In addition, the survey was distributed to the project Technical Advisory Committee.

The survey was divided into three main parts to focus on different areas of concern for pedestrian safety:

- The first section asked about Pedestrian Program Information. In this section public agencies were asked to discuss any programs they had on pedestrian infrastructure databases, other pedestrian related data, pedestrian facility related polices, and any community pedestrian programs.
- The second section asked public agencies to describe any pedestrian funding options such as Capital /Transportation Improvement Programs, pedestrian safety education, or pedestrian enforcement programs.
- The final section of the survey asked about specific pedestrian safety concerns of the public agencies. A map showing all of the ADOT roadways and mileposts was provided so that those completing the survey could easily indicate problem areas.

A total of 23 responses were received to the survey, including 22 jurisdictions and tribes, and one organization (Arizona Walks). The survey was available on-line for approximately 1 month.

Stakeholder interviews were conducted with representatives of 11 jurisdictions during the month of April, 2008. The purpose of the interviews was to elaborate on the issues and concerns addressed in the survey. The interviews provided an opportunity for the jurisdiction representatives to explain their programs and policies further. The jurisdictions included in the interviews were:

- Bullhead City;
- Casa Grande;
- Coolidge;
- Flagstaff;
- Holbrook;
- Maricopa County;
- Nogales;
- Phoenix;
- Sedona;
- Tempe;
- Tucson; and
- Yuma.

In all, information from 28 jurisdictions (including two Indian Tribes), two ADOT Districts and one organization (Arizona Walks) was obtained, as some of the agencies had both written and telephone surveys.

The results of the survey indicated that 19 of the 28 jurisdictions did not have a sidewalk inventory or database with pedestrian infrastructure. With respect to ADOT Districts, the Flagstaff District noted that sidewalk information is contained in “as-built” plans and that they have a listing of all traffic signal controlled intersections showing pedestrian crossing indications.

Twenty of the 28 jurisdictions responded yes that their jurisdiction collected other pedestrian –related data. In general, these data related to crash records collected by the police department. In Yuma, it was noted that pedestrian counts are made by the YMPO as part of their intersection turning counts, done on a two-year cycle. The City of Tucson Traffic Engineering Department noted that every fatal or serious

crash is investigated by DOT and police personnel. Generally, requests for pedestrian improvements are directed to the Public Works departments.

Most have pedestrian related policies, mainly in street design and ADA standards. ADOT Districts (and some jurisdictions) use ADOT Predesign and Roadway Design Manuals. A number of jurisdictions referred to land use development policies which require new developments to include sidewalks.

In Sedona, the City has a Design Review Board that decides on a case-by-case basis whether sidewalks are needed.

Community pedestrian-focused programs were in effect in 15 of 28 jurisdictions. Typically, these were related to pedestrian safety education on schools, but a number of jurisdictions had multi-faceted programs comprising elements for the schoolchildren and adults. For example, Flagstaff noted six pedestrian –focused programs including Pedestrian Awareness Week, walking audits, and programs focused on children (Safe Routes to School, County Safety Kids Coalition, Walking School Buses Program, and Safety Kids Program).

Funding mechanisms for pedestrian improvements included Highway User Revenue Funds (HURF), developer funding, enhancement grants, Community Development Block Grants, maintenance funds (typically for sidewalk repairs), and sales tax revenues.

Jurisdictions were asked to describe pedestrian safety issues on or near the state highways. Specific locations are noted in **Exhibit 5-2**. General safety issues included the following considerations:

- Lack of mid-block crossings;
- Gaps in the sidewalk system;
- Sidewalks in close proximity to roadway;
- Activity centers on opposite sides of street;
- Lighting; and
- Societal problems such as alcohol-involvement (with the pedestrian, typically).

Exhibit 5-2 – Public Agency Responses to Survey

Jurisdiction Name	Questions and Responses					
	1. Does Your Jurisdiction have a sidewalk inventory or other database with pedestrian infrastructure information?	**2. Does your jurisdiction collect any other pedestrian related data?**	**3.Does your jurisdiction have policies relating to pedestrian facilities**	**4.Does your Jurisdiction have any community pedestrian focused programs**	**5. Describe any funding sources used to construct pedestrian improvements or are currently identified for pedestrian improvements**	**Please describe any pedestrian safety issues on or near the state highway system within or near your jurisdiction.**
ADOT Northern Regional Traffic (Flagstaff	Yes Sidewalk information would be included in "As-Built" plans. We also have a listing of all traffic signal controlled intersections with pedestrian crossing indications. Contact Joe Reed (928) 527-0189	Yes All pedestrian crashes are maintained in a statewide data base, Phoenix AZ. Requests for pedestrian safety improvements are kept locally with the Northern Region Traffic office. Contact Chuck Gillick (928) 779-7545	Yes Various ADOT Policy and Design Guidelines.	Pedestrian Safety Education in Schools	No response	No response
ADOT Safford District	No	No	Yes The ADOT Predesign and Roadway Design Manuals contain references to use of Sidewalks in projects.	None	Pedestrian facilities are typically maintained by local agencies after the installation by ADOT. There is no specific funding for sidewalks.	Any municipality has pedestrian issues where the state routes access the urban area. Where there are signals there is a safe means of crossing. For the most part signals do not exist and pedestrians are not accommodated by cross walks or other traffic control or warning devices. Some of the State Routes in the District have school crossings that are increasingly problematic.
Town of Buckeye	No Contact Person: David Johnson	Yes The Town Police Department collects and reports this data to ADOT as part of our overall reporting on traffic incidents.	Yes The Town Transportation Master Plan is currently being developed and will include plans for pedestrian infrastructure. Additionally, the Mayor's Task Force on Environmental Initiatives is developing policies for environmentally-sound pedestrian infrastructure. Contact Person: David Johnson	Pedestrian Safety Initiatives Pedestrian Safety Education in Schools Pedestrian Safety Enforcement Programs	The Town is currently in the design phase of a sidewalk development project in the downtown area. This effort is funded at $350K consisting of 30 % local funds and 70 % federal funds provided through the Maricopa Association of Governments. The Town has several road reconstruction projects identified in our CIP that include sidewalk components but these have not yet been funded.	There is currently only limited pedestrian traffic at the several interchanges along I-10 from approximately 339th Ave. to Perryville Rd. but this includes school pedestrian traffic at the Miller Rd. interchange. A pedestrian bridge is also being constructed over SR-85 at the Warner Rd. interchange. Additional Information From Question #5 on Community Programs: The Town has worked to redesign school crossings and to establish safer walking routes for schools and the Police Department continues to monitor pedestrian safety at many intersections.
Bullhead City (Phone interview)	No	Yes The Police Dept. notifies the Public Works Dept. if there are any pedestrian crashes on SR 95 or on the local street system.	No	Yes Bullhead City Police Department works with the schools. A school resource officer is assigned to the schools and they have regular monthly meetings with students to discuss safety All Junior High Schools and Elementary Schools have reduced speed limits and school zone signs.	Maintenance funds are used to fund ADA improvements, such as ramps. For example, as painted cross walks go in, ramps are also typically constructed. Developers are required to construct sidewalks for new improvements or re-developments.	With respect to pedestrian infrastructure on SR 95: ▪ There is a lot of transient pedestrian traffic that crosses mid-block. ▪ On State Route 95, the sidewalk is discontinuous and is on one side of SR 95 or the other. Persons cross midblock at the point where the sidewalk ends, which is not at a signalized location. ▪ SR 95 is well lit. ▪ A solution would be to provide fencing on both sides of the road – there is no median (SR 95 in this area has a 2-way left turn lane 4 through lanes and 14 foot shoulders). With respect to SR 68, •SR 68 is not lit.

Exhibit 5-2 – Public Agency Responses to Survey (continued)

Jurisdiction Name	Questions and Responses					
	1. Does Your Jurisdiction have a sidewalk inventory or other database with pedestrian infrastructure information?	**2. Does your jurisdiction collect any other pedestrian related data?**	**3.Does your jurisdiction have policies relating to pedestrian facilities**	**4.Does your Jurisdiction have any community pedestrian focused programs**	**5. Describe any funding sources used to construct pedestrian improvements or are currently identified for pedestrian improvements**	**Please describe any pedestrian safety issues on or near the state highway system within or near your jurisdiction.**
Casa Grande (phone interview)	Yes (upcoming) - The City is in the process of evaluating pavement management plans that will include a sidewalk inventory. It is estimated that these data will be available in 12 months.	Yes - through the Traffic Records Section. The service request process involves either a hard copy or electronic request which can be filled out than sent to appropriate department.	The Small Area Transportation Study, which was adopted July 2007.	Yes- Traffic safety education with is funded with GOHS grant funds Bicycle safety is discussed in community groups and at schools.	Funding is private donations - $27,500 HURF funds are used for operations and safety. Currently 1 crosswalk is under design and out to bid, and 1 crosswalk has been constructed.	1.Biggest concern on state routes is at I-10 and SR 287. There is a new youth center on the southwest corner –east side. The south side of 287 has no sidewalks. The north side at the TI has sidewalks. 2.Sidewalks are immediately adjacent to the street. 3.Transients walk across the road. 4.There are gaps in the sidewalk system. 5.The majority of the crashes are on Pinal and Florence Blvd. These areas have activity centers - stores and residences. 6.To the east, there was one fatality – the pedestrian was in wheelchair. 7.Further east on SR 84, there are no activity areas.
City of Chandler	No	Yes ADOT and Chandler accident database Contact Person: Marty Johnson 480-782-3450	No	None	There is no dedicated program for pedestrian improvements. Any needed improvements are done through the overall CIP program.	None
Coolidge (phone interview)	No	Yes Through the Police Department and city website for service requests.	Yes New developments are typically required to provide sidewalks.	• City is planning to apply for Safe Routes to School funding for the West School.	• Primarily ADOT Enhancement funds – Used for sidewalks along SR 87 – Walmart to the Pima Lateral Canal, includes pedestrian bridge, sidewalks, lighting (1-2 years old) • Half cent Pinal County funds and HURF funds used for normal operations. • Approximately $5,000 used for repair or replacement labor for sidewalks.	•On Arizona Boulevard (SR 87), in the vicinity of Northern Avenue, there are a number of schools, and school children cross in this area, particularly to a convenience store on the east side of the road. •On Arizona Boulevard (SR 87) north of Martin Avenue, there is a mobile home park on the east side of the street and a grocery store on the west side of the street, so there are pedestrians crossing. •At the south end of Arizona Boulevard, the speed limits transitions quickly. •There have been requests for mid-block crosswalks. •On SR 287, west of Skousen Road pedestrian cross to a Trading Post on the opposite side of the street.

Exhibit 5-2 – Public Agency Responses to Survey (continued)

Jurisdiction Name	Questions and Responses					
	1. Does Your Jurisdiction have a sidewalk inventory or other database with pedestrian infrastructure information?	**2. Does your jurisdiction collect any other pedestrian related data?**	**3.Does your jurisdiction have policies relating to pedestrian facilities**	**4.Does your Jurisdiction have any community pedestrian focused programs**	**5. Describe any funding sources used to construct pedestrian improvements or are currently identified for pedestrian improvements**	**Please describe any pedestrian safety issues on or near the state highway system within or near your jurisdiction.**
Flagstaff (phone interview)	No	Yes The city is developing a Regional Transportation Plan which will recommend sidewalk and crosswalk inventory; The Pedestrian Safety Advisory Committee in the city identifies pedestrian problematic places and improvements and they will have some inputs later this summer;	Yes The city does not have a particular pedestrian plan, but does have a number of policies in land use plan and land development guide which pertain to pedestrian and can be accessed on the city website.	Yes- •Safe Routes to School Program •County Safety Kids Coalition •Walking School Buses Program •Safety Kids Program •Pedestrian Awareness Week •Various audits: walking audit, accessibility audit, school bus audit, and etc	•CIP •FUTS – dedicated funding from transportation tax •BBB tax – trail maintenance •Safe Routes to School Program – part of 2000 transportation tax	•Pedestrian crossing is the biggest concern for the pedestrian safety on the state highway system in Flagstaff •No place to cross and high speed are the two big issues; •Linear improvements, i.e. sidewalks, are good, but crossing improvements are lacking; •Particularly, it is difficult to find a common place to build crosswalk on Milton Road because pedestrians scatter and there are no concentrated places where pedestrians cross the street; •The city could not find obvious places for HAWK installation as there are so many driveways on the road.
Town of Fountain Hills	Yes Comment: Shown in General Plan. This sidewalks plan was presented to Town Council on August 14, 2007. Contact Person: Richard Turner, P & Z Director		Yes The subdivision regulations require a new development to include sidewalks.	None	- STP funds for improvements along Shea Blvd. between Palisades Blvd. and Fountain Hills Blvd. - RARF funds for improvements along Shea Blvd. at the Songname Blvd. intersection. - CMAG funds for a sidewalks on Fountain Hills Blvd. from Fayette Drive to the Fountain Hills Middle School	We do not have any state highways within the Fountain Hills boundary. No issues.
City of Glendale	No	Yes The City of Glendale keeps track of accidents. Chris Lemka.	Yes The City standards for sidewalk widths. There are also standards for ramps and pedestrian indications at traffic signals.	Pedestrian Safety Initiatives Pedestrian Safety Education in Schools Pedestrian Public Information Programs	N/A	Pedestrian bridge at 63rd Avenue over Loop 101.
City of Goodyear	No	No	No	Pedestrian Safety Education in Schools	No response	No response

Exhibit 5-2 – Public Agency Responses to Survey (continued)

Jurisdiction Name	Questions and Responses					
	1. Does Your Jurisdiction have a sidewalk inventory or other database with pedestrian infrastructure information?	**2. Does your jurisdiction collect any other pedestrian related data?**	**3.Does your jurisdiction have policies relating to pedestrian facilities**	**4.Does your Jurisdiction have any community pedestrian focused programs**	**5. Describe any funding sources used to construct pedestrian improvements or are currently identified for pedestrian improvements**	**Please describe any pedestrian safety issues on or near the state highway system within or near your jurisdiction.**
Greenlee County	No	No	No	None	No response	1. Sect 13 and 14 T5S R30E, Ward Canyon Road to Skyline View Road, Verde Lee to Loma Linda subdivisions - Pedestrian traffic conflicts with vehicular traffic on local roads. 2. SR 75 - Three Way to MP 394. Pedestrian traffic on shoulders of State Highway in an area that is developing through the York Valley. We have requested through the Transportation Enhancement program grant to construct pathway. We received grant approval in 2000 and project remains unbuilt. 3. US 191 through Clifton. Pedestrian traffic on State and Local roads. 4. Railroad traffic through Clifton splits residential area from businesses and schools. 5. US 70 and SR 75 through Duncan. Pedestrian traffic on State and Local roads.
Holbrook (phone interview)	No			The most recent project is the Downtown Streetscape Project, which runs between I-40 and SB-40. The improvements will include new sidewalks, cobblestone barriers, and possibly benches. There are no plans for additional lighting beyond current street lights since most business close after 6pm. Improvements were made last year between Hermosa and I-40 with widening, curbs, gutters, and new sidewalks. The project reduced a number of pedestrian crashes. Sidewalk improvements were also made where I-40 intersects with Hermosa and Mission Lane.		There is great concern for the number of pedestrian crashes along SR-77, between I-40 and SB-40. This area has a high number of transients, who are often intoxicated. The transients often find the shortest path across and that leads to crashes on the road. Two of the recorded crashes were caused that way. This strip of SR-77 also has sections without sidewalks, which creates a potential for pedestrians to trip and fall into automobile traffic at night. There is little lighting on this road, as well as throughout the entire City, which is why most pedestrian accidents occur at night. The transients rarely go below SB-40, which is consistent with the data on the provided map. One of the ways the City is looking to resolve this issue is to move sidewalks further from the road and construct a cobblestone barrier between the sidewalk and the roadway. The City is also trying to increase enforcement along SR-77 and I-40 to reduce the number of intoxicated pedestrian crashes.
Holbrook Police Dept.	No	Yes Crashes are maintained with the police accident files. Requests for improvements are received by the Director of Public Works, Donnie Fischer, via phone and mail.	Yes Policy is that all sidewalks scheduled to be replaced are to be ADA compliant.	None	$10,000.00 a year from the Public Works annual budget goes to sidewalk repair/installation.	Both sides of the sidewalk on Hopi Dr from I-40 to Navajo Blvd are in disrepair or missing. Route 77 from the city limits to the Little Colorado bridge are without sidewalks.

Exhibit 5-2 – Public Agency Responses to Survey (continued)

Jurisdiction Name	Questions and Responses					
	1. Does Your Jurisdiction have a sidewalk inventory or other database with pedestrian infrastructure information?	**2. Does your jurisdiction collect any other pedestrian related data?**	**3.Does your jurisdiction have policies relating to pedestrian facilities**	**4.Does your Jurisdiction have any community pedestrian focused programs**	**5. Describe any funding sources used to construct pedestrian improvements or are currently identified for pedestrian improvements**	**Please describe any pedestrian safety issues on or near the state highway system within or near your jurisdiction.**
City of Kingman	Yes - Comment: The Kingman Pedestrian and Bikeway Plan 2000	Yes Kingman Police Department responds to incidents and records pedestrian crash data. Requests for pedestrian safety improvements are heard by the Traffic Safety Committee.	Yes The Streets and Sidewalks Development Rules and Regulations; Kingman Zoning Ordinance, and Subdivision Ordinance all contain requirements and standards for the installation of pedestrian facilities.	Pedestrian Safety Education in Schools Pedestrian Safety Enforcement Programs	The City of Kingman has been awarded several transportation enhancement grants for pathway projects including, Hualapai Mountain Road, Mohave Wash, Railroad, and Eastern. We have also received grants for recreational trail development through the Heritage Fund. The Kingman ADOT district office has also received several enhancement grants for pathway development. The City has used CDBG funds and local general funds for accessibility improvements in the downtown area including handicap ramps and sidewalks.	I'll forward this to the Police Department for their comments.
Lake Havasu City	No	No	No	None	Funding for sidewalks are a hit and miss, low priority function that relates to the lack of overall funding for roadways and other improvements related to low HURF resources and other funding issues. We hope to budget approximately $75,000 per year for sidewalks in the future and will explore traffic calming, but only if funded by the neighborhood.	Lake Havasu City's pedestrian issues as they relate to SR 95 are somewhat limited due to the fact that the majority of the intersections are signalized and have a pedestrian phase. The multi-use pathway along the highway may be better served by an all red phase where the pathway shifts from one side of the highway to the other. SR 95 in Lake Havasu City has very little pedestrian traffic along the route and the multi-use pathway has provided an improvement for that traffic, although it will need to be expanded to the north to the Mall as well as in some cases on both sides.
City of Litchfield Park	Yes Contact Person: Chuck Ransom, Director of Field Operations	No Except police reports, which are kept by Maricopa County Sheriff's Department	No	Pedestrian Public Information Programs	Underpass pathway, crossing arterial road funded by MAG and Federal Grant.	N/A

Exhibit 5-2 – Public Agency Responses to Survey (continued)

Jurisdiction Name	Questions and Responses					
	1. Does Your Jurisdiction have a sidewalk inventory or other database with pedestrian infrastructure information?	**2. Does your jurisdiction collect any other pedestrian related data?**	**3.Does your jurisdiction have policies relating to pedestrian facilities**	**4.Does your Jurisdiction have any community pedestrian focused programs**	**5. Describe any funding sources used to construct pedestrian improvements or are currently identified for pedestrian improvements**	**Please describe any pedestrian safety issues on or near the state highway system within or near your jurisdiction.**
Maricopa County (phone interview)	Yes They have a GIS database with 6-7 years of past information to the present. In1999 bike and pedestrian information was reviewed when the Bicycle and Pedestrian Plan was updated. They were included in the Roadway Design Manual. More emphasis was placed on urban infrastructure, no longer a rural community. The Roadway Design Manual was revised in 2001 (and again in 2004). Focus was on urban versus rural. New sidewalks were mandated in urban areas, and they can be observed in aerial photos.	Yes The County typically works off of ADOT crash data and do periodic queries. People will email or call when they want shoulders widened, and Peggy keeps track of those. In 2006, MCDOT survey on Valley Metro website and entered data into an Excel spreadsheet. Over 2000 persons responded. The data was used in the Bicycle Transportation System Plan, which is a separate document that roles into the system plan.	Yes The overall Comprehensive Plan (Maricopa 2020 Eye to the Future) is under revision and will have updated Transportation Systems Plan (updated last year). The revision will have a commitment to multimodal aspects (transit, pedestrian, and bicycles to meet MCDOT and AASHTO standards and documents.	Yes- 1) 2nd grade pedestrian safety education- 50 schools/year 2) Advent of Safe Routes to School program. Received $37,770 in cycle 1 to begin in 23 schools (about $1,000 per school). The program will be implemented in fall and spring.	•CMAC and enhancements •No CIP set aside- normally developer funded •Funding pool for donations- “adopt a school” by Rotary •Development permit fees •Pedestrian safety education program- on-going commitment to do 50 1 hour programs •Valley Metro wrote a 2-year grant for Safe Routes to School, institutionalize into school program education and healthcare	Specific areas of pedestrian safety include: •On-going with Beeline Highway improvements •SR-74 over NW Valley •Loop 303- to tie in west Valley cities, turned over to ADOT •There are a great number of state highways that are main streets •ADOT does not include bicycle improvements, so using the enhancement money for improvements •More thought should be given to urban nature and to intersections of future transit- leave spaces for future right-of-way
Nogales (phone interview)	No	Yes Input is received through the Public Works Department	No	Yes- There is a program through the Police Department in the Schools. There is also a community-based program relating to the health benefits of walking.	HURF funds are used for both street and sidewalk improvements.	The main pedestrian concern is with train/ pedestrian crashes, rather than highway –related pedestrian crashes. The streets are well lit. They are working with the railroad on solutions to pedestrian safety problems, such as possibly putting a fence up so that people can’t cross while the train is stopped through town. Hundreds of persons wait for the trains on either side of the tracks.

Exhibit 5-2 – Public Agency Responses to Survey (continued)

Jurisdiction Name	Questions and Responses					
	1. Does Your Jurisdiction have a sidewalk inventory or other database with pedestrian infrastructure information?	**2. Does your jurisdiction collect any other pedestrian related data?**	**3.Does your jurisdiction have policies relating to pedestrian facilities**	**4.Does your Jurisdiction have any community pedestrian focused programs**	**5. Describe any funding sources used to construct pedestrian improvements or are currently identified for pedestrian improvements**	**Please describe any pedestrian safety issues on or near the state highway system within or near your jurisdiction.**
Pascua Yaqui Tribe	Yes, for the fact we really don't have any sidewalk infrastructure.	Yes We collected some counts relating to our HAWK light. Too, we have some data in our Pathway Master Plan and our draft Long-Range Transportation Plan.	Yes We are trying to develop policies, standards, and specs initiated through our draft Long-Range Plan.	None	1) Ignacio Baumea Road: The new roadway from Los Reales to Valencia will feature sidewalks. The total cost for the project is approx. $5 million. 2) We have a 1-mile Pathway Project in the design phase that costs about $750,000. 3) We have another pedestrian project from the Health Center to the Senior Center that costs approx. $200,000.	We are not located near a state highway.
Phoenix (phone interview)	No	The City has a work order system that notes and investigates traffic concerns, and takes necessary action to remedy the problem. Every year a pedestrian crash summary is produced. The 2006 summary is near completion, and 2005 is currently on the web. The City also has crash audits every three years of the twelve highest crash locations. Those locations are investigated to see why the crash rate is so high and what improvements could be made. These audits include only city controlled intersections. In order for the intersection to make the list, they have to have about 5-10 crashes.		•Police have a bicycle/pedestrian safety coordinator, but the emphasis is on bike safety •School safety coordinator, which includes the Safe Routes to School program •Special pedestrian crash reports •Working with Tempe, Mesa, and Metro for pedestrian safety for the light rail system	There is a sidewalk retrofit program and money for the school safety programs, but mostly they are on their own.	Indian School Road between Central and I-17 is heavily populated and is an 8-lane roadway (4 lanes westbound, 3 lanes east bound, two way left turn lane). The sidewalks are right alongside the road. The City wishes to put in bike lanes to separate the sidewalks from the road and to decrease the crossing distance. The wide characteristics of the roadway carry through to the I-17 intersection, but not sure if crashes there are a concern. I-17 intersection is extremely wide with 6 legs coming in, and pedestrian timing might be inadequate. The west side of I-17 is more economically depressed than the east, and it also has more destinations.
City of San Luis - Department of Public Works	No	No	Yes We require sidewalks with the construction of all urban streets	None	The only funding source we have for pedestrian improvement is our Highway Users funds.	In San Luis, southbound truck traffic to the San Luis Port of Entry enters the port property right next to where the pedestrians coming from Mexico exit the port property. The street leading to this point only has sidewalks on one side of the street. Pedestrians either walk in the street or walk in the dirt. This street is US Highway 95 (Truck Route).

Exhibit 5-2 – Public Agency Responses to Survey (continued)

Jurisdiction Name	Questions and Responses					
	1. Does Your Jurisdiction have a sidewalk inventory or other database with pedestrian infrastructure information?	2. Does your jurisdiction collect any other pedestrian related data?	3.Does your jurisdiction have policies relating to pedestrian facilities	4.Does your Jurisdiction have any community pedestrian focused programs	5. Describe any funding sources used to construct pedestrian improvements or are currently identified for pedestrian improvements	Please describe any pedestrian safety issues on or near the state highway system within or near your jurisdiction.
City of Scottsdale	No We are in the process of developing a an ADA transition plan, and as a spinoff, databases and GIS mapping will be formalized	Yes We collect pedestrian accident statistics, and have a website to report needed pedestrian improvements or safety issues. Our pedestrian statistics can be queried from collision data by type.	Yes We have guidelines in our Design Standards and Policies Manual. Reference link: http://www.scottsdaleaz.gov/Assets/documents/deisgn/dspm/2007/CH-05.pdf. We also have a Transportation Master Plan.	Pedestrian Safety Education in Schools Pedestrian Public Information Programs	Our pedestrian improvement projects (paths/trails, bus stop pedestrian amenities, sidewalks, neighborhood traffic management, portions of our streetscape projects, and sidewalk improvement fund) approx. $34M in 2 % transportation sales tax revenues; $7.7M Grants; $14.4M bond funds; and $1M general funds. This does not include the portion of roadway projects that include construction of sidewalks or ped improvements.	None identified.
Sedona (phone interview)	Yes The City does have a sidewalk inventory for ADA purposes. SR-89A has sidewalks along the entire route. SR-179 does not currently have sidewalks, but will have sidewalks along the entire route at the end of the construction for improvements.	Yes There is data on the number of pedestrian crossing in the daytime, but no nighttime data. The City also has data from FHWA reports that will be attached in the Committee Policy Recommendation Report.	Yes The City has a Design Review Board that decides on a case-by-case basis whether sidewalks are needed in new developments. The City encourages infill development and as a result promotes sidewalk construction that is near commercial areas (where sidewalks are almost always required), in high pedestrian traffic areas, and if the sidewalks connect to existing sidewalks. The design review process also bases the approval for sidewalks on the character of the area where the sidewalk is being proposed. In urban areas, a sidewalk with curb and gutter is appropriate, but it may not be in the rural areas. The City has problems implementing pedestrian facilities in older neighborhoods where the setbacks are small and the homes are almost on the street. Constructing sidewalks in these areas means narrowing the road, which reduces the available parking space, and also takes almost one-third of people's yard space. The City's goal is to increase the number of sidewalks.	Yes The City has a mature and developed urban trail system and the Verde Valley Cycle Coalition, which focuses more on cycling facility issues rather than pedestrian ones.	Funding for pedestrian improvements comes from development impact fees, grants, and community facility districts.	Committee Policy Recommendations focusing on 8-10 central issues along SR-89A, the most important two being targeted lighting and design barrier system from Soldier Pass Road to Dry Creek Road to direct pedestrians to safer routes. Other issues include reduced speeds and increased enforcement. The document is going to Council in June, but a draft will be available in the next few weeks. There are few pedestrian crashes along SR-179 because there are few sidewalks to attract pedestrians. The majority of SR-179 is rural and residential in nature. There are pedestrian generators along SR-179 (commercial districts), and that area has sidewalks and reduced speeds of 25mph. There are few pedestrians along SR-179 because it is dangerous due to its lack of pedestrian facilities. This will hopefully change when the new sidewalks are in place along the entire corridor. Crashes involving alcohol with pedestrians was also noted as an issue. Currently there are no proposals to remedy the situation because it is a hard issue to resolve. The City does have a strong DUI Task Force. One solution might be to increase the barriers along roadways to discourage pedestrians from crossing.

Exhibit 5-2 – Public Agency Responses to Survey (continued)

Jurisdiction Name	Questions and Responses					
	1. Does Your Jurisdiction have a sidewalk inventory or other database with pedestrian infrastructure information?	**2. Does your jurisdiction collect any other pedestrian related data?**	**3.Does your jurisdiction have policies relating to pedestrian facilities**	**4.Does your Jurisdiction have any community pedestrian focused programs**	**5. Describe any funding sources used to construct pedestrian improvements or are currently identified for pedestrian improvements**	**Please describe any pedestrian safety issues on or near the state highway system within or near your jurisdiction.**
City of St. Johns Police Department	Yes Paul Ramsey-Public Works Director Audrey-Planning and Zoning Director	Yes Crash data kept by police records. Possibly kept are requests from citizens regarding pedestrian safety improvements.	No Unknown if any city department has policies for this.	None	Paul Ramsey (Public Works Director) may have this information.	The intersection of Cleveland Street (Highways 61 and 180) and 13th Street West has been the local for many of our major accidents. It has several lanes of traffic, with various private accesses. Traffic lights have been applied for several times in the past but the federal criteria has not been met. No crosswalks are present. A major residential area exists on the north side of this intersection, with a high school to the south. There exists a heavy amount of both vehicular and pedestrian traffic within this intersection. The intersection of E. Commercial Street and S. 2nd Street East (also known as White Mountain Drive) are also highways 61, 180, and 191. The existing businesses along E. Commercial street have parking only along the street, often causing difficulties for vehicles leaving the stop sign at S. 2nd East to see oncoming traffic. A church is located directly at this intersection, and crosswalks are present. Many complaints from church goers have been made reference motorists failing to yield to pedestrians in the crosswalks. Further, during church functions and private functions allowed to be hosted on church property, vehicles consistently park along the street in areas posted for no parking, causing visual problems for motorists. Vehicles at events also park in private drives in such a way as to impair the vision of motorists.
Town of Thatcher	No	No	Yes Sidewalks and crossings required in all new developments meeting all current ADA standards.	None	CDBG funds are used for projects that almost always have a pedestrian portion. The 2008 CDBG funds of $382,006 will be used entirely for sidewalks. 2007 Thatcher sidewalk construction and maintenance budget was about $29,000.	Thatcher Unified School District has property along US 70. They currently employ a crossing guard and use 15 mph school zone signage at the intersection of US 70 and High School Avenue. This crossing is used for school grades K - 8th. In the past, a pedestrian bridge was seriously considered and grants were applied for and not obtained. With the school zone and crossing guard, accidents have been minimal, but it is a traffic hazard and nuisance. The other busy pedestrian intersection in Thatcher is US 70 and College Avenue. This intersection does have a traffic signal but is precarious none the less. The north side of the highway at this point includes the Post Office, Town Hall, housing, and schools. The south side of the highway at this point includes Eastern Arizona College, dormitories, housing, and restaurants. Because the highway divides these destinations, a large amount of ped traffic is generated.
Tohono O'odham Nation	Yes Collected during the Bureau of Indian Affairs four year inventory update project. Information is currently being finalized.	No The only agency that has data or collects data is the local police department.	No	Pedestrian Safety Education in Schools	Tohono O'odham Nation falls under Pima County jurisdiction. Through PAG we are able to obtain funding from ADOT Discretionary Funds, HES, 2.6% funds, PAG's scoping contingency pool, and etc.	All of Highway 86, running throughout the Tohono O'odham Nation, beginning from the west end at milepost 55 to the east end at milepost 145. Throughout the entire route there are no shoulders for pedestrians or cyclists. The roads are very narrow and vegetation is right up to the road. This is very dangerous at night to see animals coming out of the vegetation and onto HWY 86. Local schools have several bus stops along HWY86. One of the local schools in Sells, AZ is located right off Hwy 86 near milepost 114. The school provides a cross walk guard for kids to cross Hwy 86 safely, but this is not a safe thing to do either. The school district knows this but it's for the safety of the kids.
City of Tolleson	No	Yes The Police Department collects accident data for their records. Contact is Chief Larry Rodriguez (623) 936-7111.	Yes Contact Mario Rochin, Chief Building Inspector The City requires all new development to put in sidewalk, curb and gutter.	None	As mentioned above we require all new development to install sidewalk, curb and gutter. Any pedestrian improvements or repairs done by the City of Tolleson is absorbed in our HURF/Streets budget within the Public Works Department.	13. City of Tolleson

Exhibit 5-2 – Public Agency Responses to Survey (continued)

Jurisdiction Name	Questions and Responses					
	1. Does Your Jurisdiction have a sidewalk inventory or other database with pedestrian infrastructure information?	**2. Does your jurisdiction collect any other pedestrian related data?**	**3.Does your jurisdiction have policies relating to pedestrian facilities**	**4.Does your Jurisdiction have any community pedestrian focused programs**	**5. Describe any funding sources used to construct pedestrian improvements or are currently identified for pedestrian improvements**	**Please describe any pedestrian safety issues on or near the state highway system within or near your jurisdiction.**
Tucson (phone interview)	Yes- Sidewalk inventory conducted by PAG. Safe Routes to School program also provides information The sidewalk inventory is reasonably up-to-date.	Yes •There is a geo-coded database that was used for PAG analysis for the ½ cent sales tax. •It contains pedestrian crash data points •The City has a working document, which is a city map showing red circles for fatal pedestrian crash locations.				1.On Oracle Road, a number of changes were implemented: •Signal timings were changed from 90 to 120 seconds to allow full pedestrian crossings. •Slowed the assumption on walking speeds between River Road and Grant Road to 4 feet per second. •All school crossings assumed 3.5 feet per seconds. •Oracle Road is now fully illuminated. 2.On Oracle Road, there are living areas on the east side of the street and shopping on the west side of the street, leading to more pedestrian crossings. 3.There are socioeconomic factors regarding some of the pedestrian activities, such as alcohol and drug use. 4.On SR 86, some pedestrian crashes were at school crossings. At Freedom Drive there is a HAWK crossing now. 5.On Mission Road, three young men were crossing to reach a liquor store. There was alcohol involvement by the pedestrian.
City of Tucson	Yes Comment: Contact Bicycle and Pedestrian Coordinator Tom Thivener 791-4371 for sidewalk inventory, transit issues, bicycle safety etc.	Yes Every fatal and serious pedestrian crash is investigated by DOT personnel as well as police personnel R.B. Nassi. 791-4259 Requests for pedestrian improvements are through Tom Thivener 791-4371	Best contact us for details and meet with us	Pedestrian Safety Initiatives Pedestrian Safety Education in Schools Pedestrian Safety Enforcement Programs Pedestrian Public Information Programs	Funding Sources are basically the RTA 1/2 cent sales tax funds	Previous submitted. Many of the above questions are quite extensive. It would be best if a representative from your local firm comes to meet with us to gather the information and safety flyers. Pedestrian safety is a major program in Tucson
White Mountain Apache Tribe	No	Yes Comment: Information is collected by The Whiteriver Police Department, Whiteriver Fire Department and the Indian Health Service. Data is not shared but is not restricted and will be given upon request made by ADOT or other agencies.	No The WMAT does not have policies in place at this time. However, the Tribal Transportation Committee has made requests to the Bureau of Indian affairs roads to have sidewalks installed at various locations and have specified extra with sidewalks(6').	Pedestrian Safety Initiatives Pedestrian Safety Education in Schools Pedestrian Safety Enforcement Programs Pedestrian Public Information Programs	At the current time the WMAT does not have an ongoing program but we have received funding made to the tribe under the Safety Coalition for sobriety road stops, child safety, seat belts and school safety presentations.	The fire department has a data base of specific pedestrian, auto accident locations and other accident locations throughout the communities on the reservation. The Indian Health Service also has detailed information that would define the locations. Issues that exist for pedestrian safety throughout the reservation are speeding traffic, poor lighting at night, poor visibility narrow road widths, vertical and horizontal curves with poor sight distance and nor reflective clothing for pedestrian traffic and alcohol and drug use by pedestrian. Maps can be provided but not with this report.

Exhibit 5-2 – Public Agency Responses to Survey (continued)

Jurisdiction Name	Questions and Responses					
	1. Does Your Jurisdiction have a sidewalk inventory or other database with pedestrian infrastructure information?	**2. Does your jurisdiction collect any other pedestrian related data?**	**3.Does your jurisdiction have policies relating to pedestrian facilities**	**4.Does your Jurisdiction have any community pedestrian focused programs**	**5. Describe any funding sources used to construct pedestrian improvements or are currently identified for pedestrian improvements**	**Please describe any pedestrian safety issues on or near the state highway system within or near your jurisdiction.**
City of Yuma (phone conversation and written survey comments combined)	No Comment: Contact Person: Joel Olea	Yes Comment: 1) Pedestrian counts are made by YMPO as part of all our intersection movement counts. We count all signalized intersections and other significant intersections winter and summer on a two-year cycle. 2) We obtain accident data, including pedestrian accidents, from YMPO for many of our location-specific investigations. Contact Person: Dan Sanders	Yes Comment: See attached crosswalk policy School crossing signing and marking standards (No. 9-022) Use "countdown" pedestrian signals at virtually all signalized intersections Use pedestrian ramps (ADA) at all intersections Beginning to install pedestrian signals at some intersections where blind pedestrians are likely Contact Person: Dan Sanders	None	Downtown Way Finder Initiative ($700,000 total in 2008 and 2009, CIP 1.0502) Sidewalk handicap ramps ($10,000/year, 2008-2012, CIP 5.9511) Off-road multi-use paths ($580,000 in 2009, CIP 5.940), ($830,000 in 2009-2010, CIP 5.9622) Pacific Avenue sidewalks ($360,000 in 2008, CIP 5.9700)	U.S. 95 and Yuma Palms Parkway- Sunridge Drive (MP 24.63)- crosswalk across U.S. 95 is very long, requiring long cycles and pedestrian clearances. Pedestrians are light but continual. Other comments were: •Move sidewalks back from street •Median improvements on 4th Avenue are proposed in 15-20 years. •Eventually the state highway system through Yuma will be turned back to the City in 2 years. •The City has begun using channelized right turn lanes to shorten pedestrian crossing distances (using pork chop islands). Specific locations: •Araby / 32nd Street - the fatality at this location was actually a mid-block crash. •At SR 95 and Avenue 3E, an area with two fatal crashes, there is a bar in the vicinity and people park at the opposite side of the street. •On 4th Avenue, between 32nd Street and 16th Street there are constant but light pedestrian volumes. There are activity centers in this area and sidewalks are close to the road. •Avenue A lighting is spotty – uniformity level could be increased. •There are more pedestrians on 4th Avenue (Business SR8), north of 16th Street. There are more homeless persons there and the library is near there. •At Giss Parkway/3rd Street/4th Avenue – that is the highest pedestrian location.
Town of Youngtown	No	No	No	None	No response	The Agua Fria Parkway (located approximately 116th Avenue), runs north and southbound approximately two-thirds of a mile from Olive Avenue to Hackbarth Avenue in Youngtown. The speed limit along this stretch of roadway is 25mph, but the average speed is 35+. There are several school-bus stops along the Parkway and the Town is currently exploring, with the school district here, the possibility of moving these bus-stops onto side streets, but there are issues too with doing that. In the meantime, the Town has stepped up traffic enforcement efforts along the Parkway, including the use of a radar-trailer. Additionally, the Town is looking at re-stripping the roadway to "pinch" the lanes hoping this will slow traffic.

Exhibit 5-2 – Public Agency Responses to Survey (continued)

Shaded responses were obtained from phone interviews

Jurisdiction Name	Questions and Responses					
	1. Does Your Jurisdiction have a sidewalk inventory or other database with pedestrian infrastructure information?	**2. Does your jurisdiction collect any other pedestrian related data?**	**3.Does your jurisdiction have policies relating to pedestrian facilities**	**4.Does your Jurisdiction have any community pedestrian focused programs**	**5. Describe any funding sources used to construct pedestrian improvements or are currently identified for pedestrian improvements**	**Please describe any pedestrian safety issues on or near the state highway system within or near your jurisdiction.**
OTHER ORGANIZATIONS						
Arizona Walks	Yes Comment: We have an inventory of Tucson sidewalks, and will be seeking to expand this so we can have a (hopefully) comprehensive inventory for the larger communities in Arizona	Yes Comment: We are also compiling crash data, in order to have a factual basis for the initiatives that we will undertake	Yes Comment: Walk Arizona will be compiling and publishing what we hope will become a standard foundational set of policies for Arizona's communities.	Pedestrian Safety Initiatives Pedestrian Public Information Programs	We expect to receive grant funds from the Governor's Office of Highway Safety initially, and later to garner private foundation grants as well.	1. Lack of sufficient driver training and testing, statewide 2. Lack of continuous pedestrian facilities in most communities 3. Lack of sidewalk and other pedestrian facilities maintenance programs

6.0 CURRENT LEVEL OF PEDESTRIAN PLANNING AMONG STATE, REGIONAL, AND LOCAL PUBLIC AGENCIES

A literature review was conducted to summarize the current level of pedestrian planning among federal state, regional and local public agencies.

6.1 Federal Pedestrian Planning

The Federal Highway Administration (FHWA) has established a goal of reducing pedestrian fatalities and injuries by 10 percent by the year 2008 (as compared to 2005 data), and to reduce pedestrian fatalities by 20% over the next ten years. One of the ways the FHWA is working to reach this goal is by working with states and local jurisdictions to develop Pedestrian Safety Action Plans. The FHWA identified 13 states and 5 cities as "focus" states or cities that had above-average pedestrian fatality rates (above 150 fatalities or a pedestrian fatality rate above 2.5 per 100,000 population). The State of Arizona is a "focus state." The identified states and cities receive training to create pedestrian safety action plans that will not only reduce the number of pedestrian fatalities in the state or city, but will also help the FHWA reach its goal of a 20% pedestrian fatality reduction. As part of the it's guidance efforts, the FHWA published How to Develop a Pedestrian Safety Action Plan that is aimed at guiding states and jurisdictions in the creation of a pedestrian safety action plan.

6.2 State Pedestrian Planning

State of Arizona

The Arizona Strategic Highway Safety Plan states a goal of reducing pedestrian fatalities by 12% over the next five years (2008-2012). Six emphasis areas were identified in the Arizona Strategic Highway Safety Plan (restraint usage, speeding, young drivers, impaired driving, lane departure, and data improvement). Improvements in several of these emphasis areas will result in improved pedestrian safety.

Statewide Bicycle and Pedestrian Plan

The Statewide Bicycle and Pedestrian Plan was created in 2003. The plan was developed in two phases, Phase I and Phase II. Phase II included a Pedestrian Action Plan. Recommendations of the Pedestrian Action Plan include the following:

1. Compile and review ADA Transition Plans from different state plans, Metropolitan Planning Organizations, and incorporated and unincorporated local jurisdictions and research ADA action items and timetables. Review action items and ADA implementation progress requirements with reference to U.S. Supreme Court decision regarding the Barden v. Sacramento ADA case.

   Transition Plans primarily address pedestrian facility improvement needs relating to disabled access and the presence and condition of pedestrian facilities. Transition Plans address how jurisdictions will make their streets and roads accessible to all persons and include specific project information and commitment to a detailed time schedule for completion. Additional information on Transition Plan requirements may be found at http://www.accessboard.gov/.

2. Based upon U.S. Justice Department Access Board guidance and exemplary ADA Transition Plans from communities across the U.S., develop ADA Transition Plan updates within all local jurisdictions in Arizona and for State maintained public rightsofway Incorporate ADA

standards into all new and reconstructed roadway projects, as applicable (pedestrian walkways provided as part of roadway projects are required to incorporate ADA requirements)

3. Incorporate pedestrian standards of the Federal Highway Administration Manual on Uniform Traffic Control Devices, including safety for pedestrian travel in construction zones (Chapter 6)

4. Measure, utilizing Geographic Information Systems mapping (as applicable), demand factors including:
    a. Proximity to schools, parks, employment centers, transit stops, shopping, and community centers
    b. Land use (zoning categories)
    c. Population Density

5. Measure, utilizing GIS mapping as applicable, needs factors including:
    a. Traffic Crashes (number of crashes in past 3 years)
    b. Missing sidewalks and curb ramps, existing nonADA compliant sidewalks
    c. Inaccessible intersection crossings
    d. Public comments

6. Adopt American Association of State Highway Officials (AASHTO) Guide for the Planning, Design, and Operation of Pedestrian Facilities, July 2004

7. Incorporate Guidelines for Accessible Public RightsofWay (forthcoming)

8. Provide annual funding set aside to address ADA needs at required level (based on Sacramento case)

9. Address pedestrian "support facility" needs such as shade landscaping and rest areas to facilitate pedestrian walking comfort

10. Pursue safety programs – Safe Routes to Schools, bicycle, pedestrian and motorist safety and Education campaigns, crosswalk "stings", pedestrian and bicycle traffic diversion programs. Pursue Governors Office of Highway Safety, Transportation Enhancement, Section 402 grants Pursue Transportation Enhancement, Congestion Mitigation and Air Quality, and Safe Routes to School (if approved in pending Surface Transportation Program legislation) federal funding and demonstration grant funds for pedestrian projects and safety programs

ADOT Traffic Engineering Policies, Guidelines, and Procedures

PGP 900, Pedestrians, January 2000

Marked crosswalks should be installed where an unmarked crosswalk cannot be easily identified. A marked crosswalk is "any portion of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines or other approved markings on the pavement surface." Marked crosswalks must be warranted in order to be installed. They are warranted based on gap time, pedestrian volume, approach speed, and general conditions. Marked mid-block may be installed if it meets the crosswalk warrants and satisifies the following conditions: the length of the block between intersections shall be at least 1,000 feet, is near a high volume generator, and there must be a large number of pedestrians that cross in a concentrated area (at least 400 feet from the nearest intersection). Crosswalks shall not be

installed at unsignalized locations unless the motorist's view of the proposed crosswalk site is unrestricted.

PGP 621, Signal Phase Change Intervals, March 2001,

Section 621.2 Pedestrian Intervals:

A. WALK indication to be at least 4 to 7 seconds in length so that pedestrians have adequate opportunity to leave curb or wheelchair ramp before their clearance interval is shown. A WALK interval of 4 seconds may be sufficient when fewer than 10 pedestrians per cycle are expected or where it is desired to favor the length of an opposing phase. A WALK interval of 7 seconds or more may be used for moderate to heavy pedestrian volumes;

B. Pedestrian clearance time calculation: timing of pedestrian signal indications near facilities that serve segments of population with slower walking speeds should be calculated based on a slower walking speed. Such populations should be anticipated near shopping centers, convalescent or rest homes, therapy centers, elementary schools, etc. A walking speed of 3.5 or even 3.0 fps should be considered if senior citizens or school children are in the majority at a specific crosswalk. Walking speeds below 4.0 fps to be approved by Traffic Operations Engineer.

PGP 626, Prohibition of "Right Turn On Red" and "Left Turn On Red" Turning Movements, January 2000

Prohibition of right turn on red and left turn on red, may be considered when there is an exclusive pedestrian phase during which pedestrians can cross all crosswalks or significant pedestrian conflicts are observed due to L/RTOR maneuvers;

PGP 700 Illumination, January 2003

Section 721.4 – Special Considerations: Continuous, complete, or partial interchange lighting, and pedestrian walkway bridge lighting, may be considered to be justified where local governmental agency finds sufficient benefit to wholly finance the installations, maintenance, and operation of the lighting facilities; Section

721.5 a. Intersection Lighting: Pedestrian counts are used to evaluate need for conventional highway lighting; c. Intersections on Conventional Highways – Illumination at intersections on conventional highways should be considered using pedestrian counts;

Arizona Supplement to 2003 MUTCD: sign mounting height where pedestrian movements occur; In-Street Pedestrian Crossing Signs; Traffic Signal signs applicable to pedestrian actuation; temporary traffic control; Need for Standards (school areas); highway-railway grade crossing;

PGP 930, School Safety, September 2005

A separate document was developed in 2003 titled *Traffic Safety for School Areas Guidelines*. The purpose of this document is to emphasize that regardless of school location, safe and effective traffic control can best be obtained through the uniform application of realistic policies, practices, and standards developed through engineering studies. Section 8, Pedestrian Overpasses, cites that the following warrants must be satisfied to warrant consideration for a pedestrian overpass:

- 1. High vehicular volumes conflict with high pedestrian volumes, constituting an extreme hazard;
- 2. Modification of school routes, busing policies, campus procedures, or attendance boundaries to eliminate the need for crossing is not feasible;
- 3. Physical conditions make a grade separation structure feasible from an engineering standpoint,

including pedestrian channelization to insure usage of the structure;

- 4. Pedestrian movements can be restricted for at least 600 feet on each side of the proposed overpass;
- 5. A demonstrated problem exists that simpler, more economic solutions have failed to remedy;
- 6. The anticipated benefits to be derived from the overpass clearly outweigh the costs involved.

Arizona Supplement to the 2003 Manual On Uniform Traffic Control Devices, September 1, 2004

Section 2A.18 Mounting Height:

Standard: Where parking or pedestrian movements occur, the clearance to the bottom of the sign shall be at least 2.1 m (7 ft).

Guidance: Flexibility in mounting heights may be exercised in urban areas to account for differing conditions. Sign mounting height may be determined by engineering judgment.

Section 2B.12 In-Street Pedestrian Crossing Signs (R1-6(AZ), R1-6(AZ)a):

Option: The In-Street Pedestrian Crossing (R1-6 or R1-6a) sign may be used to remind road users of laws regarding right of way at an unsignalized pedestrian crossing. The legend STATE LAW may be shown at the top of the sign if applicable. The legends STOP FOR or YIELD TO may be used in conjunction with the appropriate symbol.

Guidance: If an island is available, the In-Street Pedestrian Crossing sign, if used, should be placed on the island.

Section 2B.45 Traffic Signal Signs (R10-1 through R10-13)

Standard: Traffic Signal signs applicable to pedestrian actuation shall be mounted immediately above or incorporated in pedestrian pushbutton units. Traffic Signal signs applicable to pedestrians include:

- CROSS ON GREEN LIGHT ONLY (R10-1);
- CROSS ON WALK SIGNAL ONLY (R10-2);
- PUSH BUTTON FOR GREEN LIGHT (R10-3); and
- PUSH BUTTON FOR WALK SIGNAL (R10-4).

Option: The following signs may be used as an alternate for the R10-3 and R10-4 signs:

- TO CROSS STREET (arrow), PUSH BUTTON WAIT FOR GREEN LIGHT (R10-3a); and
- TO CROSS STREET (arrow), PUSH BUTTON WAIT FOR WALK SIGNAL (R10-4a).
- The symbol sign R10-2a may be used as an alternate to sign R10-2. Where symbol-type pedestrian signal indications are used, an educational sign (R10-3b) may be used to improve pedestrian understanding of pedestrian indications at signalized intersections. Where word-type pedestrian signal indications are being retained for the remainder of their useful service life, the legends WALK/DONT WALK may be substituted for the symbols on the educational sign R10-3b, thus creating sign R10-3c. The R10-3d sign may be used if the pedestrian clearance time is sufficient only for the pedestrian o cross to the median. The diagrammatic sign R10-4b may also be used as an alternate to sign R10-4. At intersections where pedestrians cross in two stages using a median refuge island, the word message "CROSS TO MEDIAN" may be placed on the near corner of the refuge island along with the educational plaque.

Section 7A.01 Need for Standards

Support: It is important to stress that regardless of the school location, the best way to achieve reasonably safe and effective traffic control is through the uniform application of realistic policies, practices, and standards developed through engineering judgment.

Pedestrian safety depends upon public understanding of accepted methods for efficient traffic control. This principle is especially important in the control of pedestrians, bicycles, and other vehicles in the vicinity of schools. Neither pedestrians on their way to or from school nor road users can be expected to move safely in school areas unless they understand both the need for traffic controls and how these controls function for their benefit.

Procedures and devices that are not uniform might cause confusion among pedestrians and road users, prompt wrong decisions, and contribute to crashes. To achieve uniformity of traffic control in school areas, comparable traffic situations need to be treated in a consistent manner. Each traffic control device and control method described in Part 7 fulfills a specific function related to specific traffic conditions.

A uniform approach to school area traffic controls assures the use of similar controls for similar situations (which promotes uniform behavior on the part of motorists, pedestrians, and bicyclists).

A school traffic control plan permits the orderly review of school area traffic control needs, and the coordination of school/pedestrian safety education and engineering activities.

Arizona has found great success using special procedures for handling elementary and middle school students in Arizona, described in Arizona Revised Statute (ARS) 28-797. Initially, provisions of ARS 28-797 were also applicable to high schools, but officials learned that a different approach ought to be used at these locations. Older students resisted following instructions of adult guards, and this led officials to conclude that trying to make provisions of 28-797 apply to older students would undermine effectiveness for younger students. Accordingly, provisions used for traffic control around high schools in Arizona ought to be consistent with the portions of Part VII of this Manual not affected by ARS 28-797.

More information can be found regarding Arizona school crossing controls in section 7.5 and the Appendix of the Arizona Department of Transportation (ADOT) Traffic Safety for School Areas Guidelines. While this is the operating practice applicable to ADOT, input is solicited and incorporated from other jurisdictions in the state, resulting in local jurisdictions adhering closely to these provisions.

Arizona practice does not encourage the use of student patrol programs as described in 7E.07.

Guidance: A school route plan for each school serving elementary through 8th grade students should be prepared in order to develop uniformity in the use of school area traffic controls and to serve as the basis for a school traffic control plan for each school.

The school route plan should be developed in a systematic manner by the school, in conjunction with law enforcement, and traffic officials responsible for school pedestrian safety. The plan should consist of a map showing streets, the school, existing traffic controls, established school walk routes, and established school crossings. Such plans are not applicable for high schools, adult education, or trade schools.

The type(s) of school area traffic control devices used, either warning or regulatory, should be related to the volume and speed of vehicular traffic, street width, and the number and age of the students using the crossing.

School area traffic control devices should be included in a school traffic control plan.

All Kindergarten through 8th grade school area traffic control should comply with ARS 28-797 and the Traffic Safety for School Areas Guidelines, while traffic control for older students should comply with the remainder of Part VII.

Support: Reduced speed limit signs for school areas and crossings are included in this Manual solely for the purpose of standardizing signing for these zones and not as an endorsement of mandatory reduced speed zones. Information as to height, installation and lettering on signs can be found in the Traffic Safety for School Areas Guidelines.

Section 6B.01 Fundamental Principles of Temporary Traffic Control (TTC)

Standard: The needs and control of all road users (motorists, bicyclists, and pedestrians within the highway, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130) through a TTC zone shall be an essential part of highway construction, utility work, maintenance operations, and the management of traffic incidents.

Guidance: Road user and worker safety and accessibility in TTC zones should be an integral and high-priority element of every project from planning through design and construction. Similarly, maintenance and utility work should be planned and conducted with the safety and accessibility of all motorists, bicyclists, pedestrians (including those with disabilities), and workers being considered at all times. If the TTC zone includes a highway-rail grade crossing, early coordination with the railroad company should take place.

Guidance: General plans or guidelines should be developed to provide safety for motorists, bicyclists, pedestrians, workers, enforcement/emergency officials, and equipment, with the following factors being considered:

D. Road users should be encouraged to use alternative routes that do not include TTC zones.

E. Bicyclists and pedestrians, including those with disabilities, should be provided with access and reasonably safe passage through the TTC zone.

Motorists, bicyclists, and pedestrians should be guided in a clear and positive manner while approaching and traversing TTC zones and incident sites. The following principles should be applied:

A. Adequate warning, delineation, and channelization should be provided to assist in guiding road users in advance of and through the TTC zone or incident site by using proper pavement marking, signing, or other devices that are effective under varying conditions. Providing information that is in usable formats by pedestrians with visual disabilities should also be considered.

B. TTC devices inconsistent with intended travel paths through TTC zones should be removed or covered. However, in intermediate-term stationary, short-term, and mobile operations, where visible permanent devices are inconsistent with intended travel paths, devices that highlight or emphasize the appropriate path should be used. Providing traffic control devices that are accessible to and usable by pedestrians with disabilities should be considered.

ADOT Roadway Design Guidelines, January 2, 2007

Applicable pedestrian design reference materials, as referenced by the ADOT Roadway Design Guidelines, including the following:

- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2004;
- Americans with Disabilities Act, 1991 and current updates; and,

- FHWA Highway Design Handbook for Older Drivers and Pedestrians, 2001;

The following are excerpts from Roadway Design Guidelines that pertain to pedestrian safety.

107. 2 - Pedestrian Facilities

It is ADOT's policy to provide a transportation infrastructure that provides safe and convenient pedestrian access. The AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2004 provides guidelines for the design of pedestrian facilities.

A) Sidewalks: Sidewalks should not be constructed as a part of a highway project except as provided below. In urban areas, the highway cross section should provide space for sidewalks to be constructed by others in the future.

Exceptions:

a) ADOT will construct and pay for sidewalk to replace existing sidewalks along a State highway or a local street which were removed as a part of an ADOT project.

b) ADOT may construct additional sidewalks, over and above paragraph a), along local streets or along an urban arterial highway at the request of the local government, provided there is an agreement with the local government to pay ADOT's additional costs for design, construction and right-of-way. Agreements with local governments for the maintenance of the sidewalks must be executed before advertising the project for bids. Maintenance agreements will normally be the responsibility of the District Engineer; early notification to and coordination with the district is essential.

c) ADOT will construct and pay for sidewalks on local street grade separation structures where there is a clear indication of future pedestrian traffic along the street after construction of the highway.B) Grade Separations: Warrants for pedestrian grade separations are based on a study of the present and future needs of a particular area. Each situation should be considered on its own merits. The study should identify pedestrian generating sources in the area, pedestrian crossing volumes, vehicular traffic volumes at peak pedestrian times, type of highway to be crossed, socioeconomic and cultural factors, adjacent crossing facilities, zoning and land use in the area, type and age of pedestrians to be the primary users, and circuitry of travel without the grade separation.

Special consideration should be given to school crossings. Grade separation structures may be warranted even with very low volumes of student pedestrians. Established pedestrian patterns should be maintained across highway routes. If adjacent vehicular crossings are inadequate for the type and age of pedestrians, then grade separation structures should be considered. To warrant construction of a pedestrian grade structure, all six of the following criteria must be satisfied:

a) High vehicular volumes conflict with high pedestrian volumes, constituting an extreme hazard; and

b) Modification of school routes, busing policies, campus procedures, or attendance boundaries to eliminate the need for a crossing is not feasible; and c) Physical conditions make a grade separation structure feasible from an engineering standpoint, including pedestrian channelization to insure usage of the structure; and

d) Pedestrian movements can be restricted for at least 600 ft on each side of the proposed overpass; and

e) A demonstrated problem exists that simpler, more economic solutions have failed to remedy; and

f) The anticipated benefits to be derived from the overpass clearly outweigh the costs. Pedestrian overcrossings are the preferred type of grade separation structure. If conditions are unfavorable for an

overcrossing, undercrossings may be provided with special attention given to safety issues including width, lighting, visibility, drainage and entrance/exit conditions.

107.3 - Handicap Access

It is the policy of ADOT to fully comply with the "Americans with Disabilities Act of 1990" and updates adopted by the US Department of Justice, the US Department of Transportation, and/or the US Access-Board.

112 - Maintenance of Traffic

Traffic control plans should also include the location of temporary sidewalks in accordance with the policies given in Section 107.

310 - Sidewalks and Sidewalk Ramps

The policy on providing sidewalks is discussed in Section 107.1. Typical details for sidewalks and sidewalk ramps are shown in the Construction Standard Drawings.

Normally, sidewalks are 5 ft wide unless local standards require a greater width. Preferably, sidewalks are set back from the roadway curb and gutter to the extent practical and at least 5 ft from back of curb to sidewalk. If right-of-way constraints do not permit a setback, the sidewalk will be adjacent to the curb and gutter except at driveways where the sidewalk is constructed at the back of the driveway slope with appropriate transitions to the normal sidewalk. The project plans should detail where aggregate base is to be placed under sidewalk and driveways when warranted by local soil conditions.

Sidewalk ramps are to be provided where required to accommodate pedestrian changes in elevation, primarily at curb crossings or curb and gutter. Sidewalk ramps shall conform to the requirements of the Americans With Disabilities Act (ADA) of 1991 and current updates. Current ADA requirements provide for the inclusion of tactile detectable warnings on sidewalk ramps to alert the visually impaired as to the ramp terminus location.

The AASHTO "Guide for the Planning, Design, and Operation of Pedestrian Facilities" contains additional design guidance that may be utilized for sidewalks and sidewalk ramps.

316.2 – Traffic Lanes and Shoulder Width, (Detours)

Shoulder Width: the width of shoulder utilized for detours is dependent upon several factors which should be weighed to determine the width selected for a particular location.

These factors include detour location, traffic volume and composition, shoulder width of existing roadway, posted speed for detour, profile and side slopes, bicycle and pedestrian usage, need for longitudinal barrier, detour length, and duration of service. The designer should weigh all of the above factors in determining the selected shoulder width for the detour.

Undivided highways: the minimum detour shoulder width for a two-lane two-directional detour on a rural undivided highway is 2 ft. When bicycle traffic is prevalent, a minimum 4 ft shoulder should be provided. When the shoulder width of the approach roadway is greater than 4 ft, the existing shoulder width may be carried through the detour but may be reduced to no less than 4 ft after consideration is given to the factors listed above.

Where longitudinal barriers are required, an additional 2 ft offset to face of barrier should be provided.

316.8 – Other Features, (Detours)

An asphaltic concrete sidewalk should be placed along the edge of the detour where sidewalks exist or where significant pedestrian activity occurs along the detoured roadway. The detour sidewalk width should match the existing sidewalk width. A minimum sidewalk width of 4 ft may be considered in very restricted locations. Temporary barrier shall separate the sidewalk from the traffic lanes.
The extent of temporary lighting needs to be determined with consideration of pedestrian activity.

402.2 Design Elements

Pedestrians and bicyclists must be considered in the design of an intersection because of their potential conflict with motor vehicles. Factors such as volumes, age, and physical abilities are essential to define the magnitude of their impact.

403.2 – Modern Roundabouts

Extra care to be exercised when considering roundabouts at intersections with heavy bicycle or pedestrian volumes and supporting information required for review of roundabout designs to include a discussion on pedestrian and bicycle traffic.

406.4 – Refuge and Storage Areas

Properly sized traffic islands can also be used to provide refuge for pedestrians waiting to cross the traffic streams.

408.10 – Left-Turn Channelization, (Design Elements)

When left-turn lanes are placed in raised (curbed) medians, a minimum of 4 ft should remain at the nose for pedestrian refuge and placement of traffic control devices.

408.11 – Right Turn Channelization, (General)

Right-turn lanes are beneficial where pedestrian volumes are heavy by providing storage space for vehicles waiting for pedestrians to clear the crosswalk. The analysis and design of right-turn lanes should consider pedestrian movements.

408.13 – Traffic Islands, (General , Corner Traffic Islands)

Traffic islands are used to provide a refuge for pedestrians. In evaluating the use of traffic islands, the designer must weigh the potential increased costs against the benefits they may bring, with due consideration of the traffic volumes; percentage and type of trucks; and pedestrian usage projected for the intersection.

505. 2 – Single Point Urban Interchanges,

Movement of pedestrians through the SPUI should be carefully considered since the pedestrian is required to move though several signal phases.

ADOT Construction Standards:

C-5.20 Driveways and Sidewalks;

C-5.30 Sidewalk Ramps;
http://www.azdot.gov/highways/RdwyEng/RoadwayDesign/ConstructionStandardDrawings(current)/PDF/2007ConstructionStandardDrawings.pdf

ADOT ENG-2.0 1 Bus Stop Encroachment Permit (located at:
http://www.azdot.gov/highways/OES/PDF/encroachment_policies_guidelines_procedures.pdf)

6.3 Regional Pedestrian Planning

Flagstaff Metropolitan Planning Organization

Jurisdictions that make up the FMPO include the City of Flagstaff, Coconino County, and the Arizona Department of Transportation (ADOT). The FMPO receives funding from federal, state and local governments. Currently the MPO is working on a Regional Transportation Plan, scheduled to be completed in late 2008.

The FMPO completed a Regional Land Use and Transportation Plan in 2001, which discusses the current needs for pedestrian facilities and plans for the future. The City has four problem areas that need attention: 1) lack of sidewalks, 2) poor street crossings, 3) narrow sidewalks that are too close to the street, and 4) minimal public transit. In order to improve pedestrian facilities, the City will use roadway design standards. Each roadway project will include a pedestrian element, contributing to a continuous pedestrian system. These might include more sidewalks or pathways, improved crossings, or better lighting. Another way the City wishes to improve pedestrian circulation is through land development. Buildings and sites should orient themselves to pedestrians instead of the automobile. Business, office, and shopping parks should provide linked, convenient pathways to their buildings, parking, and the street. These connections will help create connections between modes of transportation.

Pima Association of Governments

The Pima Association of Governments region has received national recognition for innovative facility design and inclusion of ADA-compliant (Americans with Disabilities Act) features in all new and retrofitted roadway projects.

PAG developed and adopted a *Regional Pedestrian Plan* in 2000. The goals formulated for the Regional Pedestrian Plan are:

1. Educate officials and the public to be aware of pedestrian issues, and encourage walking.

2. Promote the development and design of pedestrian facilities that are direct, safe, comfortable, interesting, and provide continuity.

3. Improve pedestrian visibility and safety.

4. Promote the enhancement, improvement and maintenance of the regional pedestrian system.

5. Identify and secure funding sources to implement pedestrian programs.

PAG also developed a comprehensive sidewalk inventory which is used as a tool for identifying important gaps in the regional pedestrian network. The Tucson Region Sidewalk Inventory Project was published by PAG in January 2005. The Sidewalk Inventory Project provides a "big picture" assessment of sidewalk connectivity and accessibility along the major roadway network within the Tucson Region. The inventory was used to identify and prioritize new sidewalk improvement projects. The inventory itself was conducted in 2003.

One key objective of this project was to identify the gaps in the existing sidewalk network to indicate where barriers exist. Filling in the gaps is the first step in making the network accessible, especially for persons with disabilities. While sidewalk gaps represent the main barrier to accessibility, they are not the only barrier that should be addressed.

Yuma Metropolitan Planning Organization

The YMPO 2003-2026 Regional Transportation Plan stated that the need for additional paths was identified in the Bicycle Element of the City of Yuma General Plan.

In addition, the report stated that there is anecdotal evidence of heavy use of canal banks, washes, levees, and other linear corridors being used by a variety of equestrians, pedestrians, and bicyclists.

Maricopa Association of Governments

Pedestrian Plan 2000

The Pedestrian Plan 2000 was developed through interaction among the standing MAG Pedestrian Working Group, the Public Stakeholders Group, the consultant team, and MAG staff. It consists of specific short term (one year), mid-term (2-3 years) and long-term (4-5 years) programs and activities that are necessary to bring about an increase in walking trips in the Region and a corresponding decrease in traffic congestion. The association's regional pedestrian plan was created as an update for the 1993 pedestrian plan. The purpose of the plan is to encourage inviting places to walk within the roadway network. The plan identifies programs and actions that promote pedestrian areas and facilities. The plan has five goals ranging from land uses that promote pedestrian mobility versus automotive, to linking pedestrian pathways and facilities that are both on and off of the street. In order to accomplish these goals, pedestrian planning is encouraged to be included in all levels of planning and design.

Safe Routes to School

Maricopa Association of Governments supports the Safe Routes to School program, which strives to make walking and biking to school safer for children. The program assesses travel routes to school and based on the assessments, makes improvements to significant travel routes in and around the school. Part of the program is training for crossing guards and education for children on pedestrian safety.

Transportation Safety Committee

The MAG Transportation Safety Committee developed the Strategic Transportation Safety Plan, which includes analysis of pedestrian crashes and establishes goals for Pedestrian/Bicycle/Transit Safety:

Goal No. 1: Reduce the Number of Crashes that Involve Bicyclists or Pedestrians: Identified strategies and include educating bicyclists on road safety, promoting bicyclist training programs for youth and adults, and cosponsor safety and training programs with Coalition of Arizona Bicyclists and/or other agencies.

Goal No. 2: Improve Safety on Access Routes to Schools

Goal No. 3: Incorporate Safety Considerations in Pedestrian and Bicycle Planning

Goal No. 4: Promote Safe Multi-Modal Access

Goal No. 5: Reduce Mid-Block Pedestrian Crashes: Potential actions include increasing the lighting conditions on roads in urban areas, installation of actuated mid-block pedestrian crossing signals when intersections are too far, and strict enforcement for jaywalking laws.

Goal No. 6: Enhance Transportation Security

The Transportation Safety Committee also coordinates, in partnership with the cities of Phoenix, Glendale, Avondale, Peoria, Tempe and Mesa, regular School Crossing Guard Safety Training Workshops. The workshops are based on similar workshops conducted by the City of Phoenix for

nearly 40 years, and is widely recognized as a national model. It is designed for crossing guards, school administrators, school safety coordinators, school resource officers and others.

MAG Pedestrian Working Group

The Maricopa Association of Governments (MAG) Regional Council formed the Pedestrian Working Group in 1993 to educate the region about pedestrian issues, and to promote the development of facilities for people to walk. The Working Group consists of MAG members, and representatives of the planning, architecture, landscape architecture, and development communities.

The MAG Pedestrian Working Group developed the Pedestrian Policies and Design Guidelines 2005. The Pedestrian Policies and Design Guidelines are intended to provide a source of information and design assistance to support walking as an alternative transportation mode. MAG intends that through application of the policies and design guidance, jurisdictions, neighborhoods, land planners, and other entities will be able to: 1) better recognize opportunities to enhance the built environment for pedestrians; 2) better create and redevelop pedestrian areas throughout the region that integrate facilities for walking with other transportation modes; 3) support the development of areas where walking is the preferred transportation mode; and 4) encourage the development of other independent pedestrian-focused transportation facilities.

The Pedestrian Working Group also oversees the MAG Pedestrian Design Assistance Program. The MAG Pedestrian Design Assistance Program was initiated in 1996 to encourage the development of designs for pedestrian facilities. The intent of the program was to stimulate integration of pedestrian facilities into the planning and design of all types of infrastructure and development. The program has been successfully in leveraging nearly $5 million in federal transportation funds for pedestrian areas.

6.4 Local Pedestrian Planning

City of Tucson

The City of Tucson Bicycle and Pedestrian Program focuses its efforts on activities that will improve the quality of bike-pedestrian facilities, raise awareness about safety issues and laws, help to integrate bicycle and pedestrian planning into all city operations, and makes it easier and more logical to walk, or bike to your destination. Pima County and the City of Tucson have launched a pilot program at seven local elementary schools to develop safe routes for children to walk or bicycle to school, and to educate them about walking and bicycling safely. This pilot program is funded by a federal grant, with matching funds from the county and city. It aims to encourage children to engage in more physical activity, and reduce traffic collisions involving children.

The Safe Routes to School program is modeled after other successful programs in the country, including a nationally recognized program in Marin County, Calif. Second-grade students at the pilot schools learn about pedestrian safety, while fourth-graders learn about bicycle safety. This program not only focuses on pedestrian safety education, but it also works to improve pedestrian and bicycle facilities in and around the school. These facilities can include sidewalks, ramps, bicycle racks, lighting, and crossing improvements. If additional funding is available the projects can be extended into adjacent neighborhoods where children frequently walk or bike to school.

City of Flagstaff /Coconino County

Flagstaff /Coconino County

Flagstaff / Coconino County have published a Pedestrian and Bicycle Design Guide (August, 2003).

The City of Flagstaff offers citizens a 50/50 Sidewalk Replacement Program to assist with the expense of replacing deteriorating sidewalks, which is the homeowner's responsibility.

City of Flagstaff

The City's Design Review Guideline discusses specific pedestrian policies in the various parts of the City. The policies and guidelines are consistent with the policies in the Pedestrian and Bicycle Design Guide and the Regional Land Use and Transportation Plan. The Design Guideline states that development should be at a human scale, meaning that buildings are inviting for pedestrians and they offer pedestrian amenities such as, lighting, shade, benches, and building access from the street. The sidewalks should be next to the street but separated by trees and planting strips. There should also be a continuous pedestrian circulation system throughout the community. This circulation system should connect businesses, residential areas, local nature paths, and regional nature paths. On roads that are designated as Forest Roads, there should be a rural feel, as opposed to urban. On these roads, pedestrian facilities are to be removed from the street side and heavily screen with trees and vegetation for a natural experience. In the more urban areas pedestrian areas should be enhanced with visual cues such as colored bricks, stamped pavement, landscaping, and pedestrian scaled lighting.

City of Flagstaff has a Pedestrian Advisory Committee, as a subcommittee to the Traffic Commission. The Pedestrian Advisory Committee is composed of seven members appointed by the Traffic Commission. Members serve three-year terms. The committee investigates, considers, and makes recommendations to the Traffic Commission on items assigned to them by the Commission relating to pedestrian issues in the community.

Cottonwood-Clarkdale Area

The Arizona Department of Transportation (ADOT) has selected the Cottonwood-Clarkdale area and the City of Sedona in which to launch Safety Awareness Campaign pilot programs. The goal of the pilot programs is to increase safety awareness of motorists, bicyclists and pedestrians. The programs will focus on increasing knowledge and motivating positive behavioral changes through a public education effort, which will include participation by members of the community and a media campaign.

As part of the selection process an invitation letter for participation was sent out on Nov. 21, 2007 to all county and municipal administrators and tribal offices within the Inter-Tribal Council of Arizona (ITCA) and two non-land contract Nations — the Navajo and San Juan Southern Piaute of Arizona. A news release was also distributed to print media outlets statewide informing the public about the grant award.

Pima County

Pima County established a Bicycle and Pedestrian Program in order to improve safety for bicyclists and pedestrians. Pima County partners with many local organizations, which is open to all interested organizations, in order to improve planning for pedestrians and bicycles. The goals of the program include:

- Enhanced pedestrian facilities such as improved sidewalks, crossings, lighting, alternative routes in high traffic areas, and signage
- Increase education for motorists, pedestrians, and bicyclists- includes the "Share the Road" campaign, which seeks to improve interaction between cars, bikes, and pedestrians
- Expand Safe Routes to School program
- Increased enforcement of traffic laws to protect bicyclists and pedestrians

- Encourage promotional events such as BikeFest, El Tour de Tucson, the Tour for Tucson's Children, Tucson Bicycle Classic, Walk to School Day, Walk n' Roll to School Day, and Clean Air Days.
- Continue working with Pima Association of Governments and other local agencies in order to promote short and long term pedestrian and bicycle facility planning

Bullhead City

Currently, Bullhead City is working on the Colorado River Heritage Greenway Project (Heritage Trail), which was initiated in 1998 and the majority of pedestrian planning will be done as a part of this project. The Heritage Trail is going to be a multiuse path stretching from Lake Mead National Recreation Area to Colorado River Nature Center. The proposed trail is roughly 30 miles, the majority of the path along highways 68 and 95, which will allow pedestrians, bicyclists, boaters, fishers, kayakers and hikers. The trail will link together existing and proposed recreational facilities, parks, city and county jurisdiction facilities, and schools.

The General Plan for Bullhead City also provides some regulation for pedestrians. The plan encourages pedestrian travel for short trips, as opposed to motor vehicles. It also states that pedestrian facilities are to be included in all new development.

City of Phoenix

The goal of the draft Pedestrian Safety Action Plan of 2006 is to improve pedestrian safety through application of engineering, educational, and enforcement techniques. A documented goal in the plan, which is in draft stage (has not been adopted by mayor and council) is to reduce pedestrian crashes, injuries, and fatalities by 10 % by the year 2016, as compared to baseline 2005 statistics. The plan identifies specific goals for deployment of infrastructure (safety refuge islands, signals, sidewalks, ramps, and speed humps) by the year 2016, as well as goals for education, enforcement, and encouragement.

The plan lists a number of design elements that can be used to improve pedestrian safety. One of the elements is to use curb extensions to shorten the crossing distance at intersections as well as increased pedestrian visibility for motorists. Another element is to use pedestrian bridges in appropriate areas to safely remove pedestrians from high traffic roads. In order to accomplish this task the plan states that the pedestrian elements should be included in planning. This includes planning for site design, land uses, mixed uses, connectivity, and on-street parking. The city hopes to increase the Safe Routes to School program by 50 schools by the year 2016. The city also hopes to start three pedestrian safety campaigns for light rail, children safety, and alcohol and pedestrians.

The plan lists specific actions that can be taken to achieve the City's goals for improved pedestrian safety:

- Collect and analyze all pedestrian crash reports and summarize findings in annual pedestrian crash report summary;
- Continue collecting individual crash reports, field reports and citizen feedback on specific pedestrian safety concerns;
- Perform annual pedestrian safety audits of high pedestrian crash locations (intersections and segments);
- Perform periodic pedestrian crossing counts in areas of high pedestrian activity;
- Perform periodic field reviews of all Phoenix streets paying particular attention to areas of high pedestrian activity;

- Perform ADA compliance checks of all City of Phoenix pedestrian facilities;
- Continue working with pedestrian safety experts from surrounding communities;
- Review all submitted plans for pedestrian friendly infrastructure upgrades;
- Continue to fund the sidewalk installation program;
- Promote and fund expansion of ADA facilities citywide;
- Continue to fund the Neighborhood Traffic Management Team (NTMT) speed hump program;
- Expand efforts to obtain federal and state funding for pedestrian friendly infrastructure improvements and upgrades;
- Conduct pedestrian safety education training through police and fire departments in Phoenix elementary schools; and
- Periodically hold adult pedestrian safety training or discussion.

City of Casa Grande

The City of Casa Grande created a draft Regional Trail System Master Plan in 2007, which outlines the pedestrian needs for the community. A survey was conducted in 2005 and the results indicated that the citizens of Casa Grande wished to see more improvements for pedestrian facilities. The main goal of the plan is to increase access to trails from other community facilities (parks, schools, natural resource areas). The plan includes all types of trails for pedestrians. The first group of trails is Community Trails. These trails consist of off-road trails, much like linear parks, that have access to many community facilities. They are typically located near schools, in rural areas, in parks and natural areas. The next group of trails is Enhanced Bicycle and Pedestrian Corridors. These trails are typically found along roadsides, utilizing the public right-of-ways. Proposed enhancements include a continuous paved route along Trekell Road and a new loop through the Downtown area. The third type of trail is Future Trails, which is a general network of proposed trails that need to be refined as development in the city occurs.

City of Sedona

The City of Sedona includes pedestrian planning in its Circulation Element of the City's 2002 Community Plan. The goal of the pedestrian section is to have a safe and efficient non-motorized traffic circulation system in the community. This is accomplished by a number of means outlined in the plan. First, it is important to the city that the pathways are linked to neighborhoods, activity centers, and shuttle stops. This will provide residents and visitors to travel around the city seamlessly, while being able to experience the city's aesthetic qualities. In addition to having linked paths, there should be signs along the paths to guide pedestrians to points of interest (shopping, shuttle stops, and scenic areas).

The plan calls for the paths to be separated from automobile traffic when appropriate (high pedestrian volume areas) in order to enhance the walking experience. This is not necessary, but could be considered an alternative to the traditional sidewalk alongside the road. Removing pedestrian pathways from the road also allows for increased space for vegetation and lighting, adding an element of safety. The plan also allows for a variety of pathway materials to be used, as long as it matches the overall character of the corridor.

Pedestrian circulation should be included in all transportation improvements and regulations. Improvements to State Routes 179 and 89A should include provisions for a safe pedestrian environment. In more urban areas where there are parking and shuttle use, pedestrian circulation should have easy access to both to encourage walking trips.

City of Tempe

The City of Tempe included pedestrian planning as part of their 2003 General Plan 2030. The Pedestrian Network Element of the plan discusses ways in which the city can better accommodate pedestrians. The goal of the Pedestrian Network Element is to create connected pedestrian pathways that link to shopping, schools, parks, employment, services, and other pathways. This extensive network will allow people to move around the city without an automobile. The plan states that land uses and development patterns can help to achieve this goal by facilitating pedestrian movement by reducing or eliminating barriers to shopping and activity centers, and to ensure that they are easily accessible by pedestrian traffic. Included in the Pedestrian Network Element is an outreach program that will educate children and the public on pedestrian-related laws and safety measures.

City of Nogales

The City of Nogales discusses pedestrian planning in their General Plan Update 2020: Circulation document. Pedestrian planning is included as part of the multi-modal transportation system that also includes bicycle transit. The City's main goal is to extend the sidewalks and pathways along more roadways. The City also calls for safety and aesthetic improvements such as lighting and landscaping.

Town of Payson

The Town of Payson includes pedestrian planning in the Circulation Element of their General Plan because they feel that in order to have a successful pedestrian network; pedestrian planning must be treated like other circulation elements. The plan indicates that there are few sidewalks currently in the Town and that the system needs to be expanded in the future. To see that more sidewalks are constructed, each new subdivision must include sidewalks. Sidewalks are also encouraged around schools and where they will connect activity centers (shopping, businesses) to each other and to residential areas. So that more people will be encouraged to walk for everyday trips, the General Plan supports mixed land uses where appropriate.

The Town of Payson also has a Trails Master Plan, which was adopted in 1998, that has a goal of connecting wilderness trails to the urban trail network. Payson is located just south of Tonto National Forest and has a number of nature trails that have trailheads on the urban fringe of the Town. The plan wishes to make these trails more accessible and to expand the network into the Town. Currently there is only one urban trail, which is why an expanded network is needed. To help meet this goal pedestrian facilities are required with the construction of new roadways, and an urban loop trail is proposed that accommodates pedestrians, bicycles, and equestrians. This loop trail will also connect to other paths to create a network.

City of Coolidge

The City of Coolidge plans to be a pedestrian-friendly community. The City's General Plan calls for improved lighting, parking, signage, sidewalks, and crossings in order to meet this goal. The City plans on developing a multi-use trail system by identify existing canal embankments, utility easements, washes, and railroad rights-of-ways for potential pathway connections. This system will link together parks, cultural and natural amenities, and regional trail systems. To reach this goal, the City hopes to adopt regulations that require new development to include open space as part of the trails system.

City of Holbrook

The City of Holbrook includes pedestrian planning in their General Plan, within the Circulation Element. The plan mentions that more pedestrian level planning is needed, and that the City hopes that

improved pedestrian planning creates pathways that are more inclusive for those groups that do not or cannot drive (juveniles, children, people with disabilities, and the elderly).

City of Sierra Vista

Sierra Vista's General Plan calls for an interconnected city-wide multi-modal system. This system should connect various points of interest, recreation areas, and linear parks.

City of Glendale

The City of Glendale has a Bicycle and Pedestrian Program, but currently the program's main focus is on bicycle information and education. The City has however, initiated Downtown Pedestrian Enhancements, which includes a number of areas Downtown. Common improvements include lighting, landscaping, crosswalk enhancements, signals, trash receptacles, benches, pavers, and art projects.

The City also has a General Plan that supports pedestrian planning. The goal of the City for pedestrians is to develop and maintain pedestrian facilities and programs. The City plans to accomplish this by allowing mixed land uses, which encourages pedestrian trips, and to have a connected pathway system.

City of Prescott

The City of Prescott created a Bicycle and Pedestrian Master Plan in 2003 in order to increase the number of walking and biking trips, improve pedestrian safety, and to make pedestrian paths accessible to everyone. The plan recommends improvements to pedestrian facilities such as sidewalks, trails, and education and enforcement programs. The City hopes to accomplish these goals by:

- Planning walkable communities;
- Creating connections between interest nodes (schools, parks, neighborhoods, shopping areas, and communities facilities);
- Improved street crossings;
- Increased maintenance for sidewalks, which includes cleaning and repairs;
- Minimizing conflicts with motorized vehicles;
- Creating walking spaces that feel inviting and safe;
- Re-painting crosswalks and improving signage to clearly identify pedestrian areas;
- Increased pedestrian level lighting; and
- Constructing bridges and overpasses at intersections with high motorized vehicle traffic.

6.5 Pedestrian Groups

Surprise Walking Series- Surprise, Arizona

This program is offered through the city's Community and Recreation Department. The program offers family walks, dog day walks, and family hikes. Contact Michelle Holm at (623)222-2233 or visit www.surpriseaz.com/recreation (under the special interest and special programs links) for registration information.

Town of Payson Walking Club- Payson, Arizona

The Town of Payson offers noon walks every Tuesday and Thursday. There is a small registration fee of $25, which includes a bottle of water and the use of a pedometer every session. This is a seasonal program so check with the Parks and Recreation Department to see when it is being offered at (928) 474-524 or visit www.paysonparks.com.

Trekabout Walking Club- Prescott, Arizona

The Trekabout Walking Club offers different walks each week around the city and natural trails. Contact the Parks and Recreation Services Department for registration details at (928) 777-1552 or visit http://www.cityofprescott.net/services/parks/.

6.5 Community Pedestrian Advocacy Groups

Thunder Mountain Trekkers- Sierra Vista, Arizona

Internationally sanctioned, non-profit, non-competitive group that offers walks all around Arizona. There are three weekend walks and seven year round events. Contact Nancy Breen at (520) 378-1763 or visit http://members.cox.net/aztrekkers for more information.

Saguaro Sun Striders- Surprise, Arizona

Non-profit, non-competitive organization offering scenic and historic walks. There are weekend walks at your own pace, guided walks, and year round events. Contact Loralie Cruz at (206) 909-3944 or visit www.saguarosunstriders.org for more information.

Tucson Volkssport Club- Tucson, Arizona

This non-competitive group offers walks, bike rides, and swims. There are fourteen year round events that the club participates in. Contact Fred Barton at (520) 298-4340 or visit http://home.att.net/~jdmount/index.html for more information.

Arizona Road Racers- Phoenix, Arizona

Road Races is a non-profit running club. It hosts twenty-five runs ranging from 5k's to some that are fifty miles long. They also participate in other runs hosted by other organizations. Contact number is (602) 954-8341 or visit www.arizonaroadracers.com for more information.

The Walking Connection- Glendale, Arizona

This is a national program, though it is based in Glendale, Arizona. It offers organized hikes and walks and adventure travels. In the past these travels included the Grand Canyon, New York City, and Costa Rica. Contact Patricia Thiele-Keating at (602) 978-1887 or visit www.walkingconnection.com for more information.

Oro Valley Night Walkers- Oro Valley, Arizona

This non-competitive walking group meets on Tuesday evenings to walk around Oro Valley. It is a small community group started by people who just want to walk and meet people. Contact Dawn Heinemann on the website at http://walkers.meetup.com/471 for more information.

Walk Across Arizona- Tucson, Arizona

This walking group was started out of the University of Arizona's Cooperative Extension. The goal of this walking group is to promote healthy living and increase social interaction. It is a sixteen week walking program, where the progress of each walker is tracked. The program is offered in each county. To learn more contact Linda Block at (520) 626-5161 or visit http://cals-cf.calsnet.arizona.edu/walkacrossaz.

Arizona Walks- Tucson, Arizona

Arizona Walks is a new organization that is the Arizona chapter of the America Walks Program. The executive director of Arizona Walks is working on getting non-profit status, a running website, and a Technical Advisory Committee established by the end of 2008. It is planned to be a statewide program. Contact Richard Corbett at (520) 623-0017 for further information.

6.7 Chapter 6 Sources

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7.0 SUMMARY OF FINDINGS

Working Paper No. 1, entitled A Profile of Pedestrian Safety in Arizona, was developed to address the following questions:

- Who is walking on state highways, how much, and why?
- How safe is it to walk on state highways?
- What is the current status of pedestrian infrastructure on state highways?
- What is the current level of pedestrian planning among state, regional, and local public agencies?
- What advocacy, nonprofit, and collaborative groups currently exist in the State?

A brief summary of the findings on each of these topics is provided as follows:

7.1 Who is Walking on the State Highways and How Much?

A review of census data and other survey data indicated that:

- In Arizona, travel to work characteristics in 2000 indicated that 2.6 percent of the 2,210,395 workers 16 years of age or older walked to work.
- In the publication, Journey to Work, 2000, the Flagstaff area was noted as having a relatively high proportion of walkers to work, 7.5 percent of a total estimated workforce of 56,904. Flagstaff was noted as being one of the top 10 metropolitan statistical areas showing a high walking mode of transportation for walkers.

7.2 How Safe is it to Walk on State Highways?

In 2006, Arizona had the 6th highest pedestrian crash rate in the nation. Information obtained from the survey of the general public indicated that concern about safety was the main reason that persons do not walk on state highways. Lack of walkways was the second most common response.

Based on the *Fatality Analysis Reporting System* data in 2006, pedestrian fatalities account for nearly 13 percent of all motor crash fatalities in the State of Arizona, which is larger than the nationwide percentage of 11.2 percent. The number of pedestrian crashes each year has been increasing since 2003.

An analysis of statewide pedestrian crash data included revealed the following: detailed analysis of the following contributing factors:

- There were a total of 8,294 pedestrian crashes statewide in Arizona, 2002 to 2006.
- Approximately 90 percent, of pedestrian crashes occurred in urban areas.
- Approximately 56 percent of crashes occurred in dark conditions, 39 percent of crashes occurred in daylight.
- Approximately 4 percent of drivers involved in pedestrian crashes had been drinking.
- Approximately 14 percent of pedestrians involved in pedestrian crashes had been drinking. The condition of the pedestrian was unknown in 19 percent of pedestrian crashes.
- Approximately 20 percent of pedestrian crashes were attributed to the pedestrian not using the cross walk.
- Approximately 20 percent of pedestrian crashes were attributed to the driver not yielding the right-of-way.
- Approximately 22 percent of pedestrians were aged 11 to 20.
- Approximately 21 percent of drivers involved in pedestrian crashes were age 31 to 40.

- Approximately 64 percent of pedestrians were male.

Additional crash analysis was conducted for a representative cross section of urban areas in Arizona. The analysis demonstrated that contributing factors vary significantly by urban area. In some areas, alcohol is a major contributing factor. In others, dark conditions are the leading contributing factor.

7.3 What is the Current Status of Pedestrian Infrastructure on State Highways?

Based on an analysis of the statewide pedestrian crash data, and input from jurisdictional stakeholders, infrastructure factors were identified that contributed to crashes:

- Sidewalk discontinuities
- Lighting
- Lack of crosswalks between activity centers
- Socioeconomic factors, such as alcohol- related crashes. This was more prevalent among the pedestrian rather than the driver.
- Sidewalks directly adjacent to the roadway

Discussions with stakeholders identified other contributing factors for locations within their jurisdiction that experience a preponderance of pedestrian crashes. A summary of locations that were noted by jurisdictions and survey respondents as having safety issues is summarized as follows:

Exhibit 7-1 – Safety Issues Identified by Survey Respondents and Jurisdictions on State Routes

Jurisdiction	Locations on State Highways	Issue
Bullhead City	SR 95	Sidewalk discontinuities Need for fencing to prevent mid-block pedestrian crossings
	SR 68	This facility is not lit.
Casa Grande	I-10/ SR 287	South side of 287 needs sidewalks Gaps in the sidewalk system Youth center nearby is generating pedestrian trips.
	Pinal and Florence Boulevard	On Pinal and Florence Boulevard, there are activity centers on both sides of the street.
Coolidge	SR 87 , Vah Ki Inn Road to Martin Road	Activity centers on both sides of the streets. Need for mid-block crosswalks
	SR 287/ Skousen Road	Potential need for pedestrian crossing near trading post.
Cottonwood	SR 260 / Prairie Lane	Need for sidewalk on SR 260
Flagstaff	General	Need for more midblock crossings
	SR 180 and 66	In the downtown Flagstaff area, bikes and pedestrians share the sidewalk in certain areas

Exhibit 7-1 – Safety Issues Identified by Survey Respondents and Jurisdictions on State Routes (continued)

Jurisdiction	Locations on State Highways	Issue
Greenlee County	SR 75 - Three Way to MP 394.	Pedestrian traffic on shoulders of State Highway in an area that is developing through the York Valley. We have requested through the Transportation Enhancement program grant to construct pathway. We received grant approval in 2000 and project remains unbuilt.
	US 191 through Clifton.	Pedestrian traffic on State and Local roads.
	US 70 and SR 75 through Duncan.	Pedestrian traffic on State and Local roads.
	General	Railroad traffic through Clifton splits residential area from businesses and schools.
Holbrook	SR 77, between I-40 and SB 40	Socioeconomic factors- intoxicated pedestrians Discontinuous sidewalks, and sidewalks close to the road. Need for better lighting
Kingman	Highway 66 and 93	Need for pedestrian and bicycle improvements
Maricopa	SR 247, through City of Maricopa	Need for sidewalks
	SR 347, through City of Maricopa	Need for sidewalks Need for crosswalks and signals
	SR 347 / Honeycutt Road	
	SR 238, through City of Maricopa	Need for sidewalks
Maricopa County	Beeline Highway	Coordination with on-going improvements
Phoenix	I-17 near Indian School Road	Sidewalks adjacent to roadway
Prescott	SR 69 from Prescott Downtown to shopping malls	Need for pedestrian crossings
St. David	SR 80, through St. David	Need for “Share the Road” signs and speed control enforcement
San Luis	US 95 , at Port of Entry	Sidewalks only on one side of street. Border crossing traffic
Sedona	SR89A, Soldier Pass Road to Dry Creek Road	Recommendations from a Committee include targeted lighting and a design barrier system in this area
	SR 179 through Sedona	Possible need for barriers to discourage pedestrians from crossing. At roundabout, need for enforcement (do not yield to pedestrians)
	SR 179 / Cortez Drive	Signs are mis-aligned or missing.
Sonoita	SR 82 and SR 83 in Patagonia	Need for more crosswalks
St Johns	SR61/180 intersection	Activity centers on both sides of the street and no crosswalks.

Exhibit 7-1 – Safety Issues Identified by Survey Respondents and Jurisdictions on State Routes (continued)

Jurisdiction	Locations on State Highways	Issue
Thatcher	US 70 / High School Avenue	Elementary school crossing (K-8 grades) Possible need for pedestrian bridge
	US 70 / College Avenue	Activity centers on both sides of street, including Eastern Arizona College.
Tucson	SR 77 , north of River Road	Need for sidewalks to serve bus stops
	SR 77, Orange Grove Road to Ina Road	Need for sidewalks
	SR 77/ Los Altos Road	Need for pedestrian signal at Los Altos
	SR 77, Tucson Mall	Increase pedestrian phase at crossings near Tucson Mall
	SR 86/ Kinney Road	Need for speed reduction measures
Tuba City	SR 160 near Tuba City	Rumble strips are hard to walk on. Shoulders need improved maintenance.
Yuma	US 95 and Yuma Palms Parkway-Sunridge Drive (MP24.63)	Crosswalk across US 95 is very long, requiring long cycles and pedestrian clearances.
Yuma	4th Avenue(Business 8), 16th Street to 32nd Street	On 4th Avenue, between 32nd Street and 16th Street there are constant but light pedestrian volumes. There are activity centers in this area and sidewalks are close to the road. A median is planned in the long term.
Youngtown	Agua Fria Parkway , from Olive Avenue to Hackbarth Avenue	School bus stops are located on the Parkway. There is a concern with high vehicle speeds in this area

7.4 What is the Current Level of Pedestrian Planning among State, Regional, and Local Public Agencies?

Pedestrian planning efforts were identified for the following communities:

City of Tucson- The City of Tucson Bicycle and Pedestrian Program focuses its efforts on activities that will improve the quality of bike-pedestrian facilities, raise awareness about safety issues and laws, integrates bicycle and pedestrian planning into city operations, and makes it easier and more logical to walk, or bike to your destination. Pima County and the City of Tucson have launched a pilot program at seven local elementary schools to develop safe routes for children to walk or bicycle to school, and to educate them about walking and bicycling safely.

City of Flagstaff /Coconino County - Flagstaff / Coconino County have published a Pedestrian and Bicycle Design Guide (August, 2003). The City of Flagstaff offers citizens a 50/50 Sidewalk Replacement Program to assist with the expense of replacing deteriorating sidewalks, which is the homeowner's responsibility. The City's Design Review Guideline discusses specific pedestrian policies in the various parts of the City.

Cottonwood-Clarkdale Area- The Arizona Department of Transportation (ADOT) has selected the Cottonwood-Clarkdale area and the City of Sedona in which to launch a Safety Awareness Campaign

pilot programs. The goal of the pilot programs is to increase safety awareness of motorists, bicyclists and pedestrians.

Pima County- Pima County has a well- established Bicycle and Pedestrian Program, and, as mentioned above, works with the City of Tucson on Safe Routes to School efforts.

Bullhead City- Bullhead City is working on the Colorado River Heritage Greenway Project (Heritage Trail), which was initiated in 1998 and the majority of pedestrian planning will be done as a part of this project. The General Plan for Bullhead City also provides some regulation for pedestrians.

City of Phoenix - The goal of the draft Pedestrian Safety Action Plan of 2006 is to decreased pedestrian crashes by 10 percent by the year 2016. The plan lists a number of engineering, education, enforcement, and encouragement elements that can be used to improve pedestrian safety.

City of Casa Grande - The City of Casa Grande created a draft Regional Trail System Master Plan in 2007, which outlines the pedestrian needs for the community.

City of Sedona- The City of Sedona includes pedestrian planning in its Circulation Element of the City's 2002 Community Plan. A Committee has developed policy recommendations along SR 89A, the most important two being targeted lighting and design barrier system from Soldier Pass Road to Dry Creek Road to direct pedestrians to safer routes.

City of Tempe- The City of Tempe included pedestrian planning as part of their 2003 General Plan 2030. The Pedestrian Network Element of the plan discusses ways in which the city can better accommodate pedestrians.

City of Nogales- The City of Nogales discusses pedestrian planning in their General Plan Update 2020: Circulation document. Safe pedestrian crossings of the railroad, which bisects the City, was mentioned in stakeholder interview.

Town of Payson- The Town of Payson includes pedestrian planning in the Circulation Element of their General Plan.

City of Coolidge- The City of Coolidge plans to be a pedestrian-friendly community. The City's General Plan calls for improved lighting, parking, signage, sidewalks, and crossings in order to meet this goal.

City of Holbrook - The City of Holbrook includes pedestrian planning in their General Plan, within the Circulation Element.

City of Sierra Vista- Sierra Vista's General Plan calls for an interconnected city-wide multi-modal system.

City of Glendale - The City of Glendale has a Bicycle and Pedestrian Program, but currently the program's main focus is on bicycle information and education.

City of Prescott -The City of Prescott created a Bicycle and Pedestrian Master Plan in 2003

7.5 What Advocacy, Nonprofit, and Collaborative Groups Currently Exist in the State?

Pedestrian advocacy groups and city-organized walking groups were identified in a number of jurisdictions in Arizona including:

- City of Glendale;
- Town of Oro Valley;

- Town of Payson;
- City of Phoenix;
- City of Prescott;
- City of Sierra Vista;
- Surprise, Arizona; and
- City of Tucson.

APPENDIX A – FOCUS AREA PEDESTRIAN CRASH ANALYSIS AND JURISDICTION INTERVIEW SUMMARIES

Bullhead City

Focus Area Pedestrian Crash Analysis and Jurisdiction Interview Summary Notes

Twenty–six pedestrian crashes occurred on State Highways in Bullhead City between 2002 and 2006. These crashes occurred primarily on US 95, and to a lesser extent on SR 68, as shown in **Exhibit A1**. The crashes included 5 fatality and 17 injury crashes.

Crash Characteristics

Key characteristics of the 26 pedestrian crashes are summarized as follows:

- Roadway Control – All of the crashes occurred on non-controlled access.
- Pedestrian Action – The pedestrian action in the majority of crashes (70 percent) was that the pedestrian was crossing the road.
- Day Versus Night Crashes – 62 percent of crashes occurred in dark conditions, and 8 percent in dawn or dusk.
- Physical Condition of Pedestrian – 22 percent of the pedestrians involved in crashes had been drinking.
- Physical Condition of Driver – 4 percent of the drivers (1 driver) had been drinking. In all other cases, there was no apparent influence.
- Pedestrian Violation – As shown in **Exhibit A2,** key violations by the pedestrian included Failure to Yield, Did Not Use Crosswalk, Other, and Unknown.
- Driver Violation – 67 percent of the drivers had no violations. Major driver violations included Speed Too Fast for Conditions (7 percent), Disregarded Traffic Signal (4 percent), Inattention (11 percent), Other (8 percent), Unknown (4 percent).
- Driver Action – The drivers were listed as "Going Straight Ahead" in the majority of crashes (74 percent), making left turn (11 percent), and making right turn (4 percent).
- Age – The highest percentage of pedestrians (22 percent) were in the 41 to 50 age bracket. The highest percentage of drivers (33 percent) were in the 61 to 70 age bracket.
- Gender – 19 of the 27 pedestrians involved in a crash were male.

Discussion

Discussion with stakeholders from Bullhead City indicated that US 95 was well lit, however there are sidewalk discontinuities. Pedestrians cross US 95 at uncontrolled crossing locations to reach sidewalks on opposite sides of the street.

With respect to pedestrian crashes on SR 68, it was observed that SR 68 is not lit.

Exhibit A1 – Bullhead City, Location of State Highway Pedestrian Crashes, 2002 – 2006

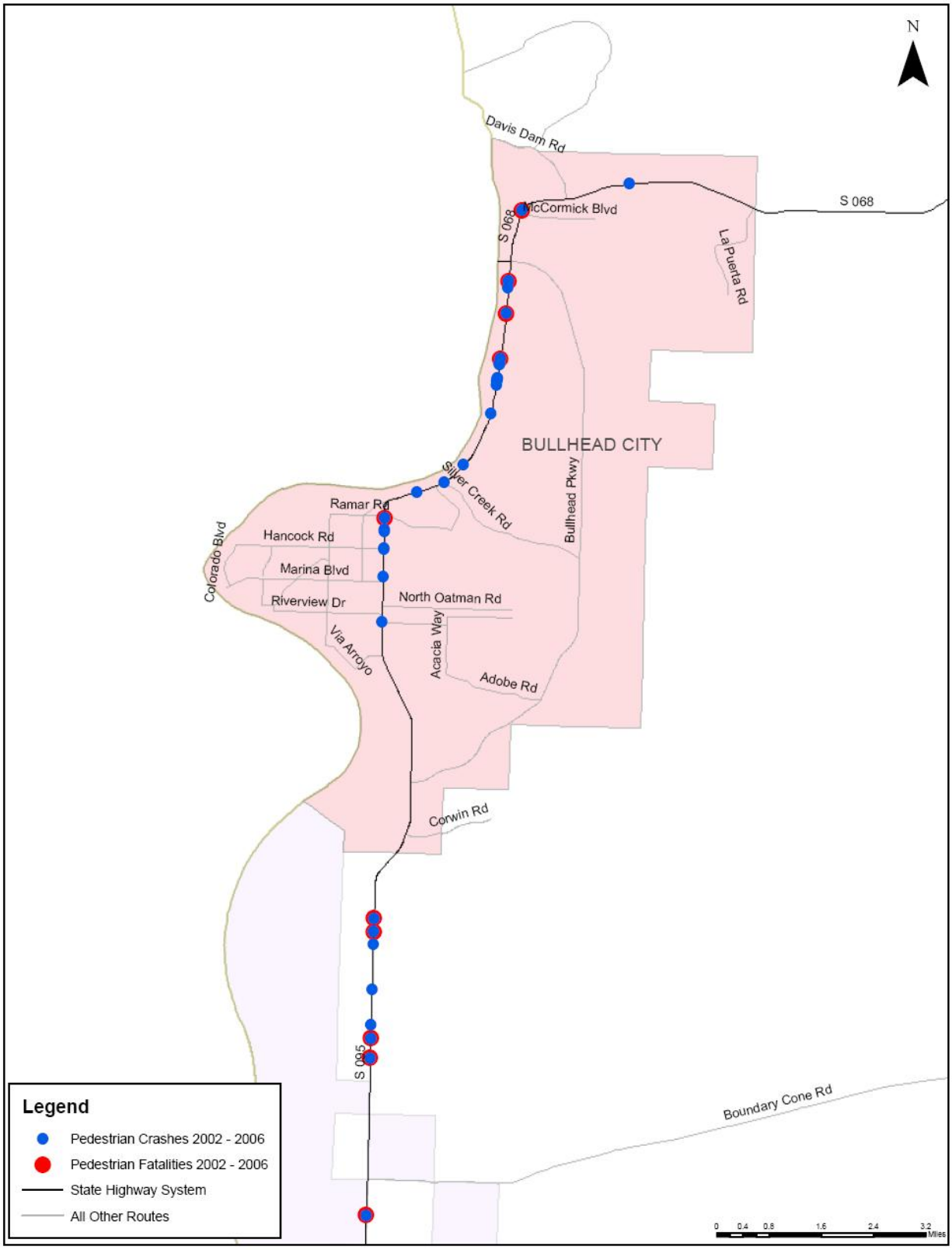
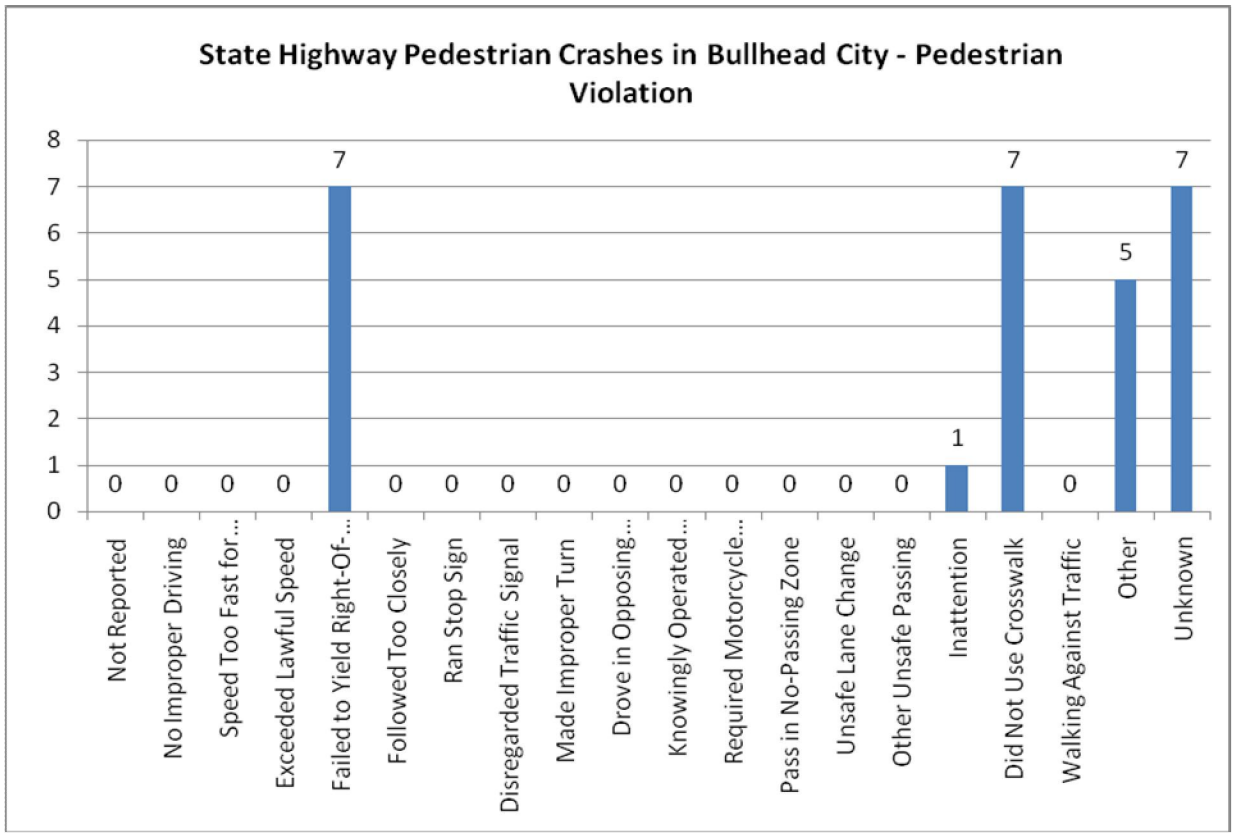


Exhibit A2 – Bullhead City, State Highway Pedestrian Crashes, 2002-2006, Pedestrian Violation



Interview Summary

Interview Date	4/18/08
Interview Participants	Mike Donnelly, Bullhead City Brent Crowther, Kimley-Horn Mary Rodin, Kimley-Horn

Pedestrian Program Information

1. ***Does your jurisdiction/organization have a sidewalk inventory or another database with pedestrian infrastructure information?***

No.

2. ***Does your jurisdiction/agency collect any other pedestrian related data? This may include crashes, requests for pedestrian safety improvements, emails? etc. Who is the contact person?***

Yes. The Police Department notifies the Public Works Department if there are any pedestrian crashes on SR 95 or on the local street system.

3. ***Does your jurisdiction/organization have any policies related to pedestrian facilities (e.g.***

accommodation or provision of pedestrian infrastructure, etc.)?

No.

4. ***Does your jurisdiction/organization have any community pedestrian-focused programs?***

Bullhead City Police Department works with the schools. A school resource officer is assigned to the schools and they have regular monthly meetings with students to discuss safety items like crossings at signalized locations.

All Junior High Schools and Elementary Schools have reduced speed limits and school zone signs

Pedestrian Funding Information

5. ***Please describe any funding sources and approximate amount per year that are used by your jurisdiction/organization to construct pedestrian improvements or that are currently identified for pedestrian improvements in a Capital / Transportation Improvement Program, or other initiatives such as Pedestrian Safety Education Programs, Pedestrian Safety Enforcement Programs, and Pedestrian Public Information Programs.***

Funding sources:

- Maintenance funds are used to fund ADA improvements, such as ramps. For example, as painted cross walks go in, ramps are also typically constructed.
- Developers are required to construct sidewalks for new improvements or re-developments.

Specific Pedestrian Safety Concerns

6. Please describe, as specifically as possible, any pedestrian safety issues on or near the state highway system within or near your jurisdiction.

With respect to pedestrian infrastructure on SR 95:

- There is a lot of transient pedestrian traffic that crosses mid-block.
- On State Route 95, the sidewalk is discontinuous and is on one side of SR 95 or the other. Persons cross midblock at the point where the sidewalk ends, which is not at a signalized location.
- SR 95 is well lit.
- A solution would be to provide fencing on both sides of the road – there is no median (SR 95 in this area has a 2-way left turn lane 4 through lanes and 14 foot shoulders).

With respect to SR 68:

- SR 68 is not lit.

City of Casa Grande

Focus Area Pedestrian Crash Analysis and Jurisdiction Interview Summary Notes

Twenty–seven pedestrian crashes occurred on State Highways in the City of Casa Grande between 2002 and 2006. These crashes occurred primarily on SR 287, and to a lesser extent on SR 387 and I-10, as shown in **Exhibit A3.** The crashes included 3 fatality and 19 injury crashes.

Crash Characteristics

Key characteristics of the 27 pedestrian crashes are summarized as follows:

- Roadway Control – All of the crashes occurred on non-controlled access.
- Pedestrian Action – The pedestrian action in the majority of crashes (67 percent) was that the pedestrian was crossing the road.
- Day Versus Night Crashes – 44 percent of pedestrian crashes occurred during darkness and 44 percent also occurred during the daylight hours. The remainder of crashes occurred during dusk or dawn.
- Physical Condition of Pedestrian – The majority of pedestrians (52 percent) had no apparent influence. 15 percent had been drinking.
- Physical Condition of Driver – No drivers had been drinking.
- Pedestrian Violation – Key violations by the pedestrians included Did Not Use Crosswalk (27 percent), Failed to Yield Right-of-Way (10 percent), and Inattention (10 percent).
- Driver Violation – 52 percent of the drivers had no violations. Major driver violations included Failed to Yield Right-of-Way (19 percent), Inattention (11 percent), and Drove in Opposing Traffic Lane (4 percent).
- Driver Action – The drivers were listed as "Going Straight Ahead" in 52 percent of the crashes, "Making Left-Turn" in 22 percent of the crashes, and "Entering or Leaving Driveway" in 14 percent of the crashes.
- Age – The highest percentage of pedestrians 20 percent) were in the 11 to 20 age bracket.
- Gender – 20 of the 30 pedestrians involved were male.

Discussion

Interviews with stakeholders in the Casa Grande indicated the following factors may contribute to pedestrian crashes:

- Biggest concern on state routes is at the interchange of I-10 and SR 287 (east side of interchange). There is a new youth center on the southwest corner. The south side of SR 287 has no sidewalks. The north side of the interchange area has sidewalks.
- Sidewalks are immediately adjacent to the street. There are also gaps in the sidewalk system.
- Transients walk across the road.
- A number of crashes are on Pinal and Florence Boulevard near activity centers.

Interview Summary

Interview Date	4/22/08
Interview Participants	Kevin Lewis Paul Silver Phil Lawton Mike Keck

Pedestrian Program Information

1. ***Does your jurisdiction/organization have a sidewalk inventory or another database with pedestrian infrastructure information?***

No. The City is in the process of evaluating pavement management plans that will include a sidewalk inventory. It is estimated that these data will be available in 12 months.

2. ***Does your jurisdiction/agency collect any other pedestrian related data? This may include crashes, requests for pedestrian safety improvements, emails? etc. Who is the contact person?***

Yes. The Traffic Records Section. The service request process involves either a hard copy or electronic request which can be filled out than sent to appropriate department.

3. ***Does your jurisdiction/organization have any policies related to pedestrian facilities (e.g. accommodation or provision of pedestrian infrastructure, etc.)?***

Yes. The Small Area Transportation Study adopted July 2007.

4. ***Does your jurisdiction/organization have any community pedestrian-focused programs?***

Traffic safety education with GOHS grant funds
Bicycle safety is discussed in community groups and at schools.
ATV safety is discussed.

Pedestrian Funding Information

5. ***Please describe any funding sources and approximate amount per year that are used by your jurisdiction/organization to construct pedestrian improvements or that are currently identified for pedestrian improvements in a Capital / Transportation Improvement Program, or other initiatives such as Pedestrian Safety Education Programs, Pedestrian Safety Enforcement Programs, and Pedestrian Public Information Programs***

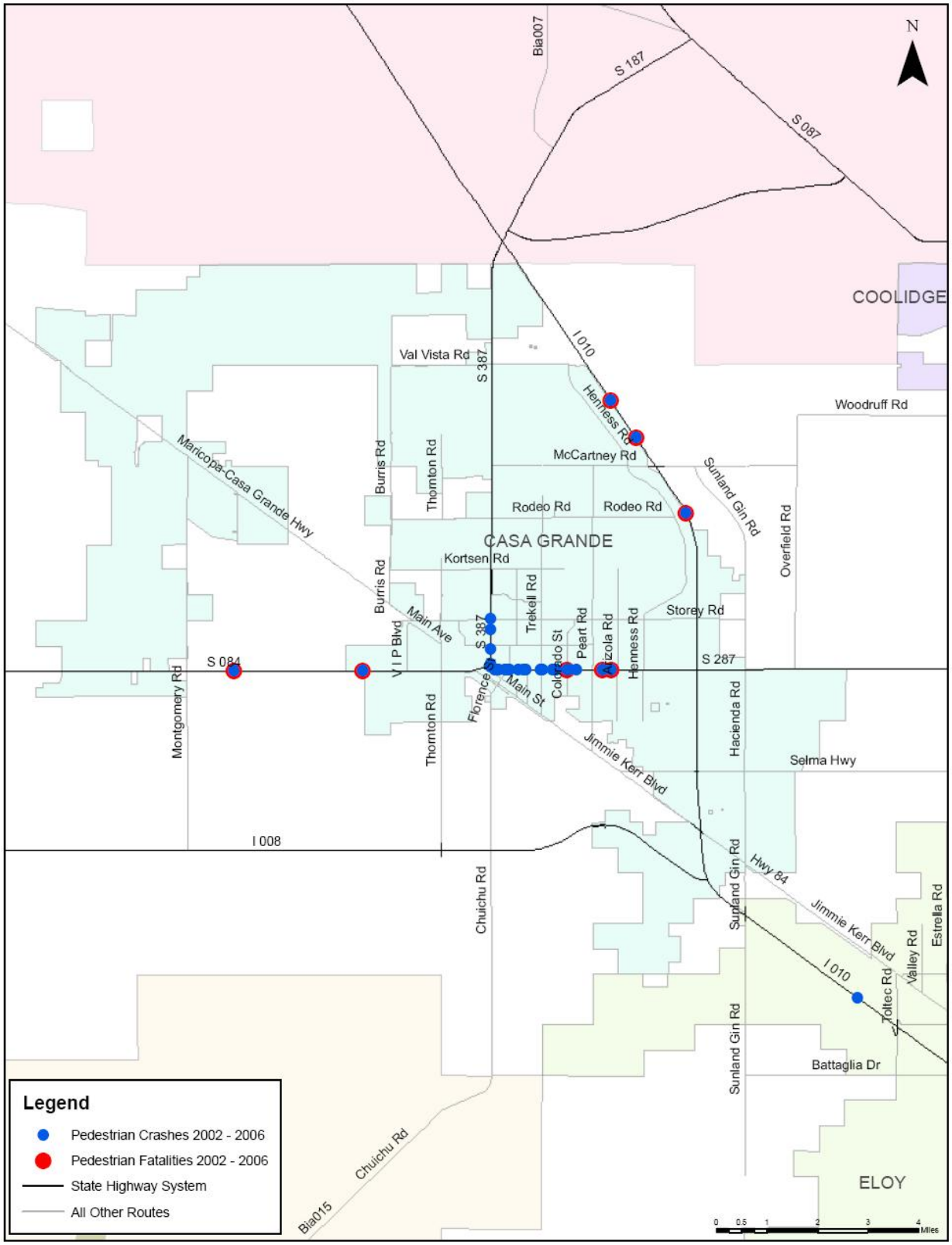
Funding is private donations - $27,500
HURF funds are used for operations and safety.
Currently 1 crosswalk is under design and out to bid, and 1 crosswalk has been constructed

Specific Pedestrian Safety Concerns

6. ***Please describe, as specifically as possible, any pedestrian safety issues on or near the state highway system within or near your jurisdiction.***

- Biggest concern on state routes is at I-10 and SR 287. There is a new youth center on the southwest corner –east side. The south side of 287 has no sidewalks. The north side at the TI has sidewalks.
- Sidewalks are immediately adjacent to the street.
- Transients walk across the road.
- There are gaps in the sidewalk system.
- The majority of the crashes are on Pinal and Florence Blvd. These areas have activity centers - stores and residences.
- To the east, there was one fatality – the pedestrian was in wheelchair.
- Further east on SR 84, there are no activity areas.

Exhibit A3 – Casa Grande, Location of State Highway Pedestrian Crashes, 2002-2006



City of Coolidge

Focus Area Pedestrian Crash Analysis and Jurisdiction Interview Summary Notes

Ten pedestrian crashes occurred on state highways in the City of Coolidge between 2002 and 2006. These crashes occurred primarily on SR 87, and to a lesser extent on SR 287, as shown in **Exhibit A4.** The crashes included 10 injury crashes and one pedestrian fatality during this time period.

Crash Characteristics

Key characteristics of the 10 pedestrian crashes are summarized as follows:

- Roadway Control – All of the crashes occurred on non-controlled access.
- Pedestrian Action – The pedestrian action in the majority of crashes (79 percent) was that the pedestrian was crossing the road.
- Day Versus Night Crashes – The majority of pedestrian crashes (60 percent) occurred during daylight.
- Physical Condition of Pedestrian – 7 percent of the pedestrians involved in crashes had been drinking.
- Physical Condition of Driver – 7 percent of the pedestrians involved in crashes had been drinking.
- Pedestrian Violation –Violations by the pedestrians included Inattention (29 percent).
- Driver Violation –Major driver violations included Failed to Yield Right-of-Way (30 percent) and Inattention (20 percent).
- Driver Action – The driver was listed as "Going Straight Ahead" in 50 percent of the crashes and "Making Left-Turn" and "Right-Turn" in 40 percent and 10 percent of the crashes, respectively.
- Age – The highest percentage of pedestrians (36 percent) were in the 11 to 20 age bracket.
- Gender – 57 percent of the crashes involved a female pedestrian.

Discussion

Conversations with City of Coolidge stakeholders indicated that on SR 87 between Vah Ki Inn Road and Martin Road, there are activity centers on both sides of the street. There have been requests for mid-block crosswalks. On SR 287, near Skousen Road, there is a trading post which attracts pedestrian traffic.

Interview Summary

Interview Date	4/24/2008
Interview Participants	Alton Bruce Jill Dusenberry Mary Rodin

Pedestrian Program Information

1. ***Does your jurisdiction/organization have a sidewalk inventory or another database with pedestrian infrastructure information?***

No.

2. ***Does your jurisdiction/agency collect any other pedestrian related data? This may include crashes, requests for pedestrian safety improvements, emails? etc. Who is the contact person?***

Yes.
- Police Department
- On the City website there is a request form to request repairs, e.g. broken sidewalks.

3. ***Does your jurisdiction/organization have any policies related to pedestrian facilities (e.g. accommodation or provision of pedestrian infrastructure, etc.)?***

- New developments – the City requires sidewalks.

4. ***Does your jurisdiction/organization have any community pedestrian-focused programs?***

- City is planning to apply for Safe Routes to School funding for the West School.

Pedestrian Funding Information

5. ***Please describe any funding sources and approximate amount per year that are used by your jurisdiction/organization to construct pedestrian improvements or that are currently identified for pedestrian improvements in a Capital / Transportation Improvement Program, or other initiatives such as Pedestrian Safety Education Programs, Pedestrian Safety Enforcement Programs, and Pedestrian Public Information Programs.***

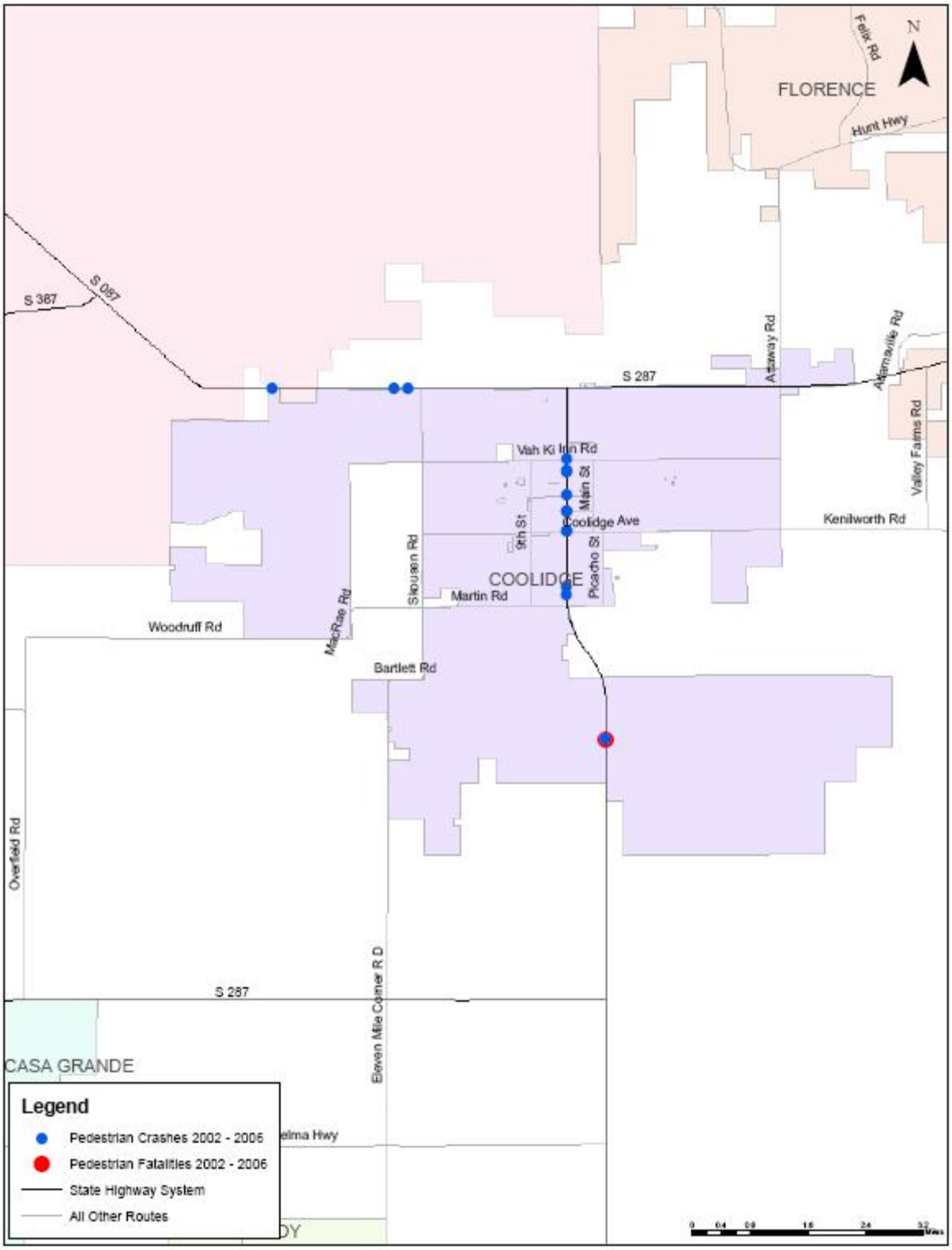
- Primarily ADOT Enhancement funds – Used for sidewalks along SR 87 – Walmart to the Pima Lateral Canal, includes pedestrian bridge, sidewalks, lighting (1-2 years old)
- Half cent Pinal County funds and HURF funds used for normal operations.
- Approximately $5,000 used for repair or replacement labor for sidewalks.

Specific Pedestrian Safety Concerns

6. ***Please describe, as specifically as possible, any pedestrian safety issues on or near the state highway system within or near your jurisdiction.***

- On Arizona Boulevard (SR 87), in the vicinity of Northern Avenue, there are a number of schools, and school children cross in this area, particularly to a convenience store on the east side of the road.
- On Arizona Boulevard (SR 87) north of Martin Avenue, there is a mobile home park on the east side of the street and a grocery store on the west side of the street, so there are pedestrians crossing.
- At the south end of Arizona Boulevard, the speed limits transitions quickly.
- There have been requests for mid-block crosswalks.
- On SR 287, pedestrian crashes west of Skousen Road are related to pedestrian crossings to a Trading Post on the opposite side of the street.

Exhibit A4 – Coolidge, Location of State Highway Pedestrian Crashes, 2002 – 2006



City of Flagstaff

Focus Area Pedestrian Crash Analysis and Jurisdiction Interview Summary Notes

Sixty-two pedestrian crashes occurred on state highways within in the City of Flagstaff between 2002 and 2006. These crashes occurred primarily on US 89 and B-40, as shown in **Exhibit A5**. The crashes included 6 fatalities and 49 injury crashes.

Crash Characteristics

Key characteristics of the 62 pedestrian crashes are summarized as follows:

- Roadway Control – 61 of the crashes occurred on non-controlled access and only one occurred on mainline.
- Pedestrian Action – The pedestrian action in the majority of crashes (71 percent) was that the pedestrian was crossing the road.
- Day Versus Night Crashes – 56 percent of the pedestrian crashes occurred during darkness and 5 percent occurred during dusk or dawn.
- Physical Condition of Pedestrian – 40 percent of the pedestrians had been drinking, which is a significant number comparing to other jurisdictions, and 37 percent had no apparent influence.
- Physical Condition of Driver – A majority of the drivers (84 percent) were not under any apparent influence and 2 percent had been drinking.
- Pedestrian Violation – Key violations by the pedestrians included Did Not Use Crosswalk (21 percent), Failed to Yield Right-of-Way (13 percent Inattention (7 percent), and Disregarded Traffic Signal (6 percent).
- Driver Violation – 44 percent of the drivers had no violations. Major driver violations included Failed to Yield Right-of-Way (28 percent), Inattention (8 percent), and Speed Too Fast for Conditions (5 percent).
- Driver Action – The drivers were listed as "Going Straight Ahead" in 52 percent of the crashes and "Making Right-Turn" and "Left-Turn" in 20 percent and 18 percent of the crashes, respectively.
- Age – The highest percentage of pedestrians (20 percent) was in the 11 to 20 age bracket.
- Gender – 64 percent of pedestrians were male.

Discussion

- Discussion with a representative from the City of Flagstaff indicated that a key factor with regards to pedestrian safety on state routes within the city is a lack of pedestrian crossings. Particularly, it is difficult to find a central location to build a crosswalk on Milton Road (SR 89) because there are no concentrated places where pedestrians cross the street. The city could not find obvious places for HAWK installation as there are so many driveways on the road.
- Lack of mid-block crossings and high speed are the two big issues;
- Linear improvements, i.e. sidewalks, are good, but crossing improvements are lacking;

Interview Summary

Interview Date	04/17/2008
Interview Participants	Martin Ince, City of Flagstaff Brent Crowther, Kimley-Horn

Pedestrian Program Information

6. ***Does your jurisdiction/organization have a sidewalk inventory or another database with pedestrian infrastructure information?***

The city does not have a sidewalk inventory.

7. ***Does your jurisdiction/agency collect any other pedestrian related data? This may include crashes, requests for pedestrian safety improvements, emails? etc. Who is the contact person?***

- The city is developing a Regional Transportation Plan which will recommend sidewalk and crosswalk inventory;
- The Pedestrian Safety Advisory Committee in the city identifies pedestrian problematic places and improvements and they will have some inputs later this summer;

8. ***Does your jurisdiction/organization have any policies related to pedestrian facilities (e.g. accommodation or provision of pedestrian infrastructure, etc.)?***

- The city does not have a particular pedestrian plan, but does have a number of policies in land use plan and land development guide which pertain to pedestrian and can be accessed on the city website.

9. ***Does your jurisdiction/organization have any community pedestrian-focused programs?***

- Safe Routes to School Program
- County Safety Kids Coalition
- Walking School Buses Program
- Safety Kids Program
- Pedestrian Awareness Week
- Various audits: walking audit, accessibility audit, school bus audit, and etc

Pedestrian Funding Information

10. ***Please describe any funding sources and approximate amount per year that are used by your jurisdiction/organization to construct pedestrian improvements or that are currently identified for pedestrian improvements in a Capital / Transportation Improvement Program, or other initiatives such as Pedestrian Safety Education Programs, Pedestrian Safety Enforcement Programs, and Pedestrian Public Information Programs.***

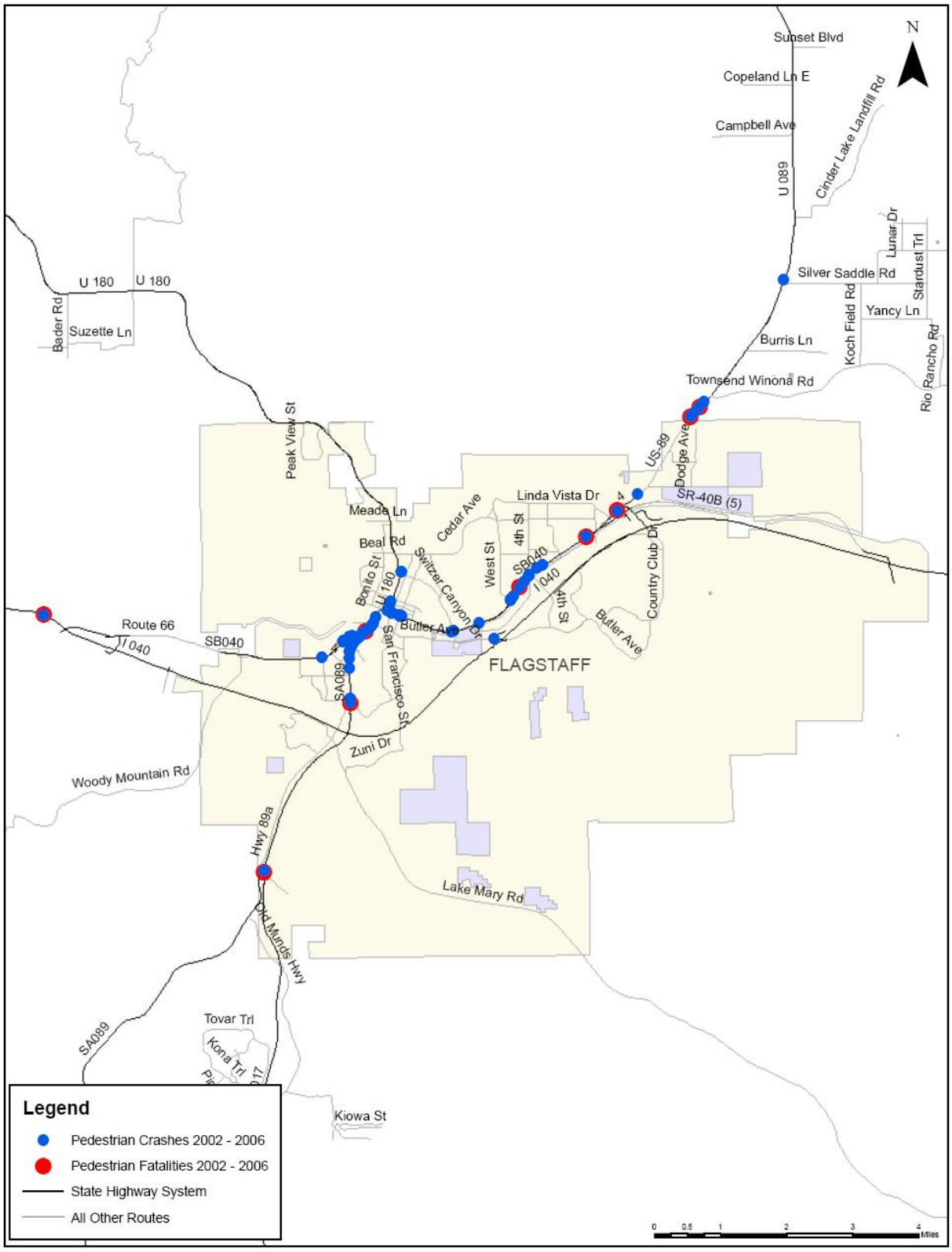
- CIP
- FUTS – dedicated funding from transportation tax
- BBB tax – trail maintenance
- Safe Routes to School Program – part of 2000 transportation tax

Specific Pedestrian Safety Concerns

6. ***Please describe, as specifically as possible, any pedestrian safety issues on or near the state highway system within or near your jurisdiction.***

- Pedestrian crossing is the biggest concern for the pedestrian safety on the state highways in Flagstaff
- No place to cross and high speed are the two big issues;
- Linear improvements, i.e. sidewalks, are good, but crossing improvements are lacking;
- Particularly, it is difficult to find a common place to build crosswalk on Milton Road because pedestrians scatter and there are no concentrated places where pedestrians cross the street;
- The city could not find obvious places for HAWK installation as there are so many driveways on the road.

Exhibit A5 – Flagstaff, Location of State Highway Pedestrian Crashes, 2002 - 2006



City of Holbrook

Focus Area Pedestrian Crash Analysis and Jurisdiction Interview Summary Notes

Eighteen pedestrian crashes occurred on State Highways in the area within and surrounding Holbrook between 2002 and 2006. These pedestrian crashes occurred primarily on SB 40 and SR 77, as shown in **Exhibit A6**. The crashes included 2 fatality and 16 injury crashes.

Discussion with Holbrook Police Department staff indicated that on SR 77, between I-40 and SB 40, this roadway segment has discontinuous sidewalks , and the sidewalks that do exist are close to the roadway. Other factors are that this area has a high number of transients, who sometimes are intoxicated, and may attempt unsafe crossing behavior.

Crash Characteristics

Key characteristics of the 18 pedestrian crashes are summarized as follows:

- Roadway Control – 94 percent of the crashes occurred on non-controlled access and 6 percent occurred on mainline.
- Pedestrian Action – The pedestrian action in a majority (72 percent) of the crashes was that the pedestrian was crossing the road, along with walking against traffic (16 percent), and the remainder was other or unknown.
- Driver Action – The drivers were reported as "Going Straight Ahead" in 78 percent of the crashes, "Making Right-Turn" (6 percent) and "Left-Turn" (6 percent).
- Day Versus Night Crashes – 72 percent of the pedestrian crashes occurred during darkness and 28 percent occurred during the daylight hours.
- Physical Condition of Pedestrian – 58 percent of the pedestrians had been drinking.
- Physical Condition of Driver – A majority of the drivers (72 percent) were not under any apparent influence while 6 percent had been drinking, and the rest were unknown.
- Pedestrian Violation – Key violations by the pedestrians included Did Not Use Crosswalk (32 percent), Inattention (37 percent), and Failed to Yield Right-of-Way (16 percent).
- Driver Violation – 72 percent of the drivers had no improper driving. Major driver violations included Failed to Yield Right-of-Way (6 percent) and Inattention (6 percent).
- Age – The highest percentage of pedestrians was in the 41-50 age bracket (21 percent).
- Gender – 79 percent of the crashes involved a male pedestrian.

Interview Summary

Interview Date	April 16, 2008
Interview Participants	Chief Dwayne Hartup, City of Holbrook Brent Crowther, Kimley-Horn Mary Rodin, Kimley-Horn Adria Henderson, Kimley-Horn

Pedestrian Program Information

1. ***Does your jurisdiction/organization have a sidewalk inventory or another database with pedestrian infrastructure information?***

The City has no sidewalk inventory.

2. ***Does your jurisdiction/organization have any community pedestrian-focused programs?***

The most recent project is the Downtown Streetscape Project, which runs between I-40 and SB-40. The improvements will include new sidewalks, cobblestone barriers, and possibly benches. There are no plans for additional lighting beyond current street lights since most business close after 6pm.

Improvements were made last year between Hermosa and I-40 with widening, curbs, gutters, and new sidewalks. The project reduced a number of pedestrian crashes. Sidewalk improvements were also made where I-40 intersects with Hermosa and Mission Lane.

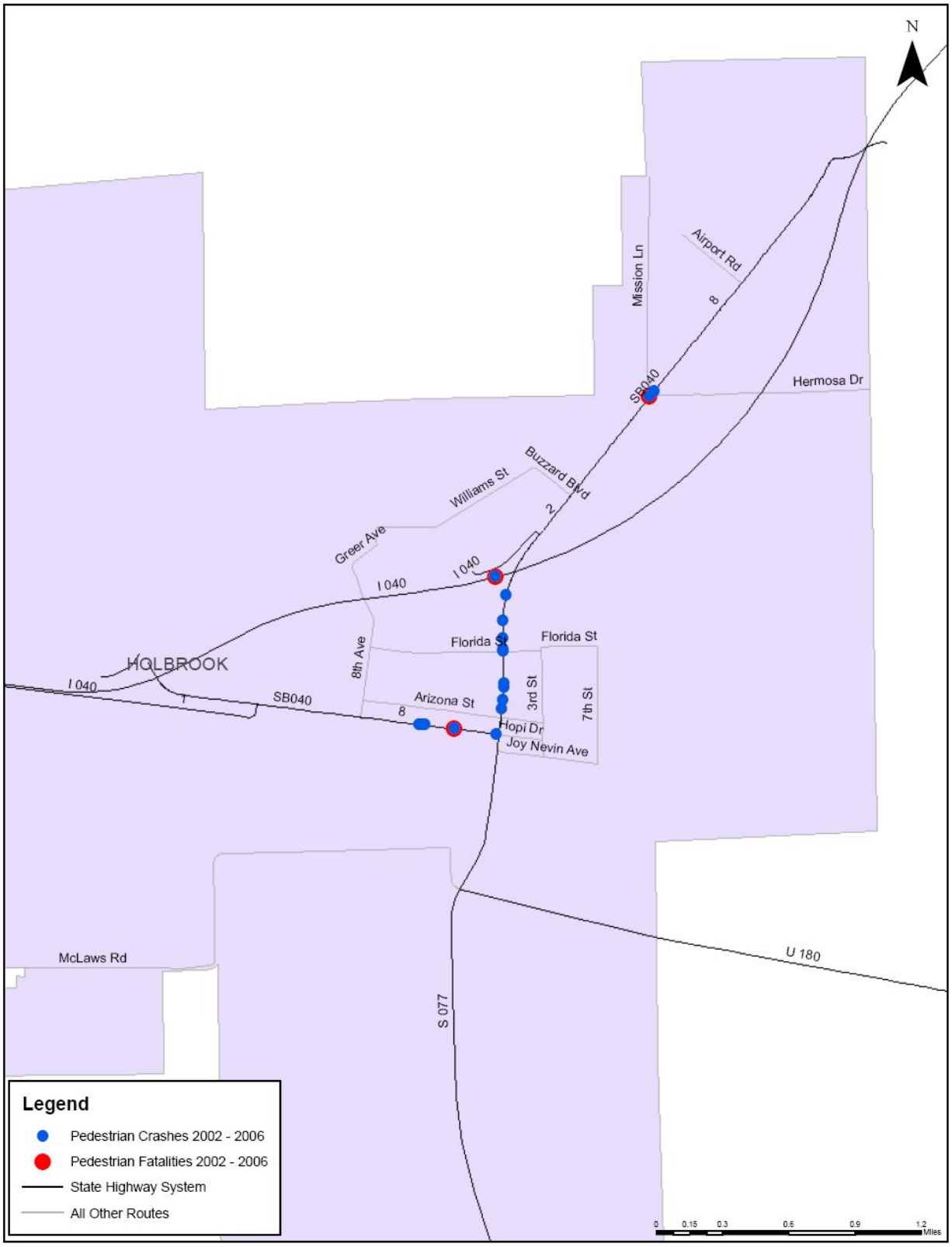
3. ***Please describe, as specifically as possible, any pedestrian safety issues on or near the state highway system within or near your jurisdiction.***

There is great concern for the number of pedestrian crashes along SR-77, between I-40 and SB-40. This area has a high number of transients, who are often intoxicated. The transients often find the shortest path across and that leads to crashes on the road. Two of the recorded crashes were caused that way.

This strip of SR-77 also has sections without sidewalks, which creates a potential for pedestrians to trip and fall into automobile traffic at night. There is little lighting on this road, as well as throughout the entire City, which is why most pedestrian accidents occur at night. The transients rarely go below SB-40, which is consistent with the data on the provided map.

One of the ways the City is looking to resolve this issue is to move sidewalks further from the road and construct a cobblestone barrier between the sidewalk and the roadway. The City is also trying to increase enforcement along SR-77 and I-40 to reduce the number of intoxicated pedestrian crashes.

Exhibit A6 – Holbrook, Location of State Highway Pedestrian Crashes, 2002 – 2006



Phoenix Metropolitan Area: City of Phoenix

Focus Area Pedestrian Crash Analysis and Jurisdiction Interview Summary Notes

Note: Interviews were conducted with City of Phoenix, City of Tempe, and Maricopa County

One hundred thirty seven pedestrian crashes occurred on state highways (including interstates, interchanges, frontage roads) in the Phoenix urban area between 2002 and 2006.

- Pedestrian Action – The pedestrian action in 42 percent of the crashes was that the pedestrian was crossing the road
- Driver Action – The drivers were reported as "Going Straight Ahead" in 53 percent of the crashes, "Making Right-Turn" and "Left-Turn" in 13 percent and 6 percent of the crashes, respectively.
- Day Versus Night Crashes – 49 percent of the crashes occurred in darkness, 7 percent occurred in dawn or dusk.
- Physical Condition of Pedestrian –13 percent had been drinking
- Physical Condition of Driver – A majority of the drivers (78 percent) were not under any apparent influence, 5 percent had been drinking
- Pedestrian Violation – Key violations by the pedestrians included Did Not Use Crosswalk (16 percent), Failed to Yield Right-of-Way (8 percent), Inattention (7 percent),
- Driver Violation – 52 percent of the drivers had no improper driving. Major driver violations included Speed Too Fast for Conditions (13 percent)
- Age – Age of pedestrians was fairly evenly distributed between ages of 11 and 40, with approximately 20 percent of pedestrians in each age bracket.
- Gender – 73 percent of the crashes involved a male pedestrian.

Additional crash analysis was performed and jurisdiction interviews were conducted for City of Phoenix, and City of Tempe. An interview was also conducted with Maricopa County.

City of Phoenix Crash Analysis

81 crashes occurred in the City of Phoenix on state highways (including interstates, interchanges, frontage roads) between 2002 and 2006. Locations of these crashes are shown in **Exhibit A7**. The crashes included 15 fatality and 66 injury crashes.

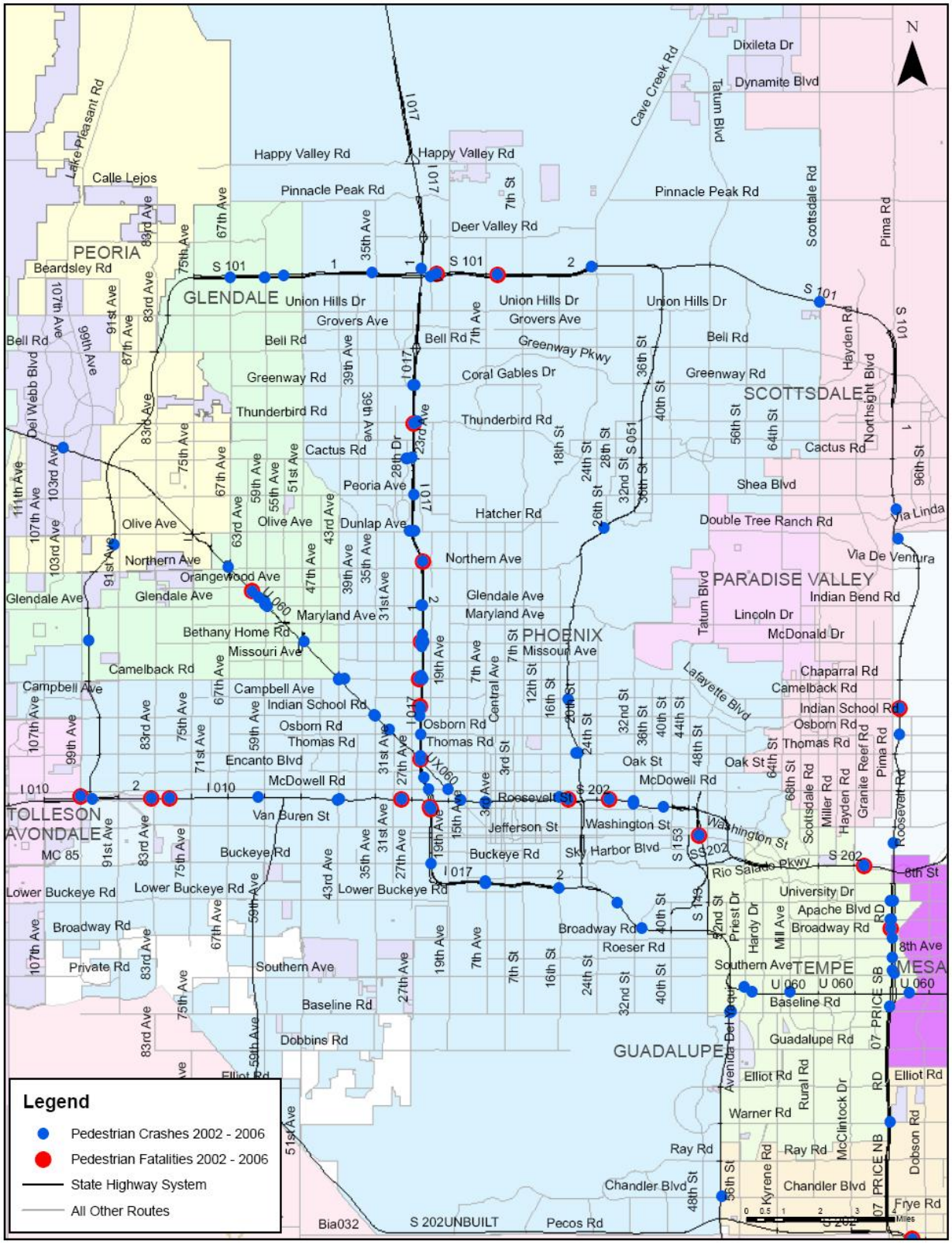
Crash Characteristics

Key characteristics of the 81 pedestrian crashes are summarized as follows:

- Roadway Control – 49 percent of the crashes occurred on non-controlled access, 28 percent on mainline, 14 percent on frontage road, 7 percent on crossroad, and 1 percent on off-ramp.
- Pedestrian Action – The pedestrian action in 44 percent of the crashes was that the pedestrian was crossing the road, working on / pushing vehicles (12 percent).
- Driver Action – The drivers were reported as "Going Straight Ahead" in 56 percent of the crashes, "Making Right-Turn" and "Left-Turn" in 14 percent and 4 percent of the crashes, respectively.
- Day Versus Night Crashes – 52 percent of the crashes occurred in darkness, 41 percent occurred during daylight hours, and 7 percent occurred in dawn or dusk.

- Physical Condition of Pedestrian –12 percent had been drinking.
- Physical Condition of Driver – A majority of the drivers (76 percent) were not under any apparent influence, 6 percent had been drinking, 1 percent were sleepy-fatigued, 1 percent had physical impairment, and the remainder was other, unknown or not reported.
- Pedestrian Violation – Key violations by the pedestrians included Did Not Use Crosswalk (17 percent), Failed to Yield Right-of-Way (11 percent), Inattention (7 percent), Disregarded Traffic Signal (6 percent), Walking against Traffic (1 percent), and the remainder was other or unknown.
- Driver Violation – 56 percent of the drivers had no improper driving. Major driver violations included Speed Too Fast for Conditions (15 percent), Failed to Yield Right-of-Way (6 percent), and Inattention (4 percent).
- Age – The highest percentage of pedestrians (25 percent) was in the 31 to 40 age bracket.
- Gender – 75 percent of the crashes involved a male pedestrian.

Exhibit A7 – Phoenix, Location of State Highway Pedestrian Crashes, 2002 - 2006



Interview Summary – City of Phoenix

Interview Date	April 28, 2008
Interview Participants	Kerry Wilcoxon, City of Phoenix Streets Brent Crowther, Kimley-Horn Adria Henderson, Kimley-Horn

Pedestrian Program Information

1. ***Does your jurisdiction/organization have a sidewalk inventory or another database with pedestrian infrastructure information?***
   Phoenix does not have an inventory for pedestrian related infrastructure
- Police have a bicycle/pedestrian safety coordinator, but the emphasis is on bike safety
- School safety coordinator, which includes the Safe Routes to School program
- Special pedestrian crash reports
- Working with Tempe, Mesa, and Metro for pedestrian safety for the light rail system

2. ***Does your jurisdiction/agency collect any other pedestrian related data? This may include crashes, requests for pedestrian safety improvements, emails? etc. Who is the contact person?***

The City has a work order system that notes and investigates traffic concerns, and takes necessary action to remedy the problem.

Every year a pedestrian crash summary is produced. The 2006 summary is near completion, and 2005 is currently on the web.

The City also conducts crash audits each year of the 10-15 locations with the highest three year total pedestrian crashes. Those locations are investigated to see why the crash rate is so high and what improvements could be made. These audits include only city controlled intersections. In order for the intersection to make the list, they have to have about 5-10 crashes

3. ***Does your jurisdiction/organization have any policies related to pedestrian facilities (e.g. accommodation or provision of pedestrian infrastructure, etc.)?***

Not discussed

4. ***Does your jurisdiction/organization have any community pedestrian-focused programs?***

Not discussed

Pedestrian Funding Information

5. ***Please describe any funding sources and approximate amount per year that are used by your jurisdiction/organization to construct pedestrian improvements or that are currently identified for pedestrian improvements in a Capital / Transportation Improvement Program, or other initiatives such as Pedestrian Safety Education Programs, Pedestrian Safety Enforcement Programs, and Pedestrian Public Information Programs.***

There is a sidewalk retrofit program and money for the school safety programs, but mostly they are on their own

Specific Pedestrian Safety Concerns

6. *Please describe, as specifically as possible, any pedestrian safety issues on or near the state highway system within or near your jurisdiction.*

Indian School Road between Central and I-17 is heavily populated and is an 8-lane roadway (4 lanes westbound, 3 lanes east bound, two way left turn lane). The sidewalks are right alongside the road. The City wishes to put in bike lanes to separate the sidewalks from the road and to decrease the crossing distance. The wide characteristics of the roadway carry through to the I-17 intersection, but not sure if crashes there are a concern.

I-17 intersection is extremely wide with 6 legs coming in, and pedestrian timing might be inadequate. The west side of I-17 is more economically depressed than the east, and it also has more destinations.

Additional Comments

- The City is installing 2-stage, unsignalized crosswalks where there are established pedestrian patterns or crash patterns
- There are approximately 600 pedestrian crashes per year. 40-60 are fatal
- The 12-17 age group has the highest crash incidents, followed by 36-55.
- 15 percent of the crashes have alcohol or drug involvement
- Looking at the HAWK for certain high crash locations. Once they become an option, the next obstacle is figuring out how it would affect/work with other signals

Crashes on state highways might be from people breaking down and getting hit while walking for help or while working on the car

Phoenix Metropolitan Area: City of Tempe

Focus Area Pedestrian Crash Analysis and Jurisdiction Interview Summary Notes

Nineteen pedestrian crashes occurred on state highways in the City of Tempe between 2002 and 2006 as shown in **Exhibit A8**. The crashes included 2 fatality and 16 injury crashes.

Crash Characteristics

Key characteristics of the 19 pedestrian crashes are summarized as follows:

- Roadway Control – 63 percent of the crashes occurred on non-controlled access, 26 percent occurred on mainline, and 5 percent occurred on frontage road and on-ramp, respectively.
- Pedestrian Action – The pedestrian action in 47 percent of the crashes was that the pedestrian was crossing the road, along with walking with traffic (11 percent), walking against traffic (11 percent), and working on / pushing vehicles (11 percent).
- Driver Action – The drivers were reported as "Going Straight Ahead" in 37 percent of the crashes, "Making Right-Turn" and "Left-Turn" in 16 percent of the crashes, respectively, "Avoiding Vehicle, Objects, etc" in 16 percent of the crashes, and "Changing Lanes" in 5 percent of the crashes.
- Day Versus Night Crashes – 53 percent of the crashes occurred during daylight hours, 37 percent occurred in darkness, and 11 percent occurred in dawn or dusk.
- Physical Condition of Pedestrian – 58 percent of the pedestrians were not under any apparent influence, 5 percent had been drinking, 5 percent were ill – ability influenced, and the remainder was unknown.
- Physical Condition of Driver – 79 percent of the drivers were not under any apparent influence, 5 percent had been drinking, and the rest was unknown.
- Pedestrian Violation – Key violations by the pedestrians included Did Not Use Crosswalk (16 percent), Failed to Yield Right-of-Way (11 percent) and Walking against Traffic (5 percent). The remainder was other or unknown.
- Driver Violation – 42 percent of the drivers had no improper driving. Major driver violations included Failed to Yield Right-of-Way (21 percent), Speed Too Fast for Conditions (5 percent), Other Unsafe Passing (5 percent), and Inattention (11 percent).
- Age – The highest percentage of pedestrians (42 percent) was in the 21 to 30 age bracket.
- Gender – 63 percent of the crashes involved a male pedestrian.

Interview Summary

Interview Date	4/23/2008
Interview Participants	Robert Yabes Eric Iverson Tanya Chavez Brent Crowther Mary Rodin

Pedestrian Program Information

1. ***Does your jurisdiction/organization have a sidewalk inventory or another database with pedestrian infrastructure information?***

Pathway Inventory

2. ***Does your jurisdiction/organization have any policies related to pedestrian facilities (e.g. accommodation or provision of pedestrian infrastructure, etc.)?***

Transportation Overlay District guidelines

3. ***Does your jurisdiction/organization have any community pedestrian-focused programs***

- Safe Routes to School
- They are working with School Districts regarding bus routes, so no school children have to cross major arterials to reach a bus stop.
- Police are active with education
- Tempe Bike Action Group

Pedestrian Funding Information

4. ***Please describe any funding sources and approximate amount per year that are used by your jurisdiction/organization to construct pedestrian improvements or that are currently identified for pedestrian improvements in a Capital / Transportation Improvement Program, or other initiatives such as Pedestrian Safety Education Programs, Pedestrian Safety Enforcement Programs, and Pedestrian Public Information Programs.***

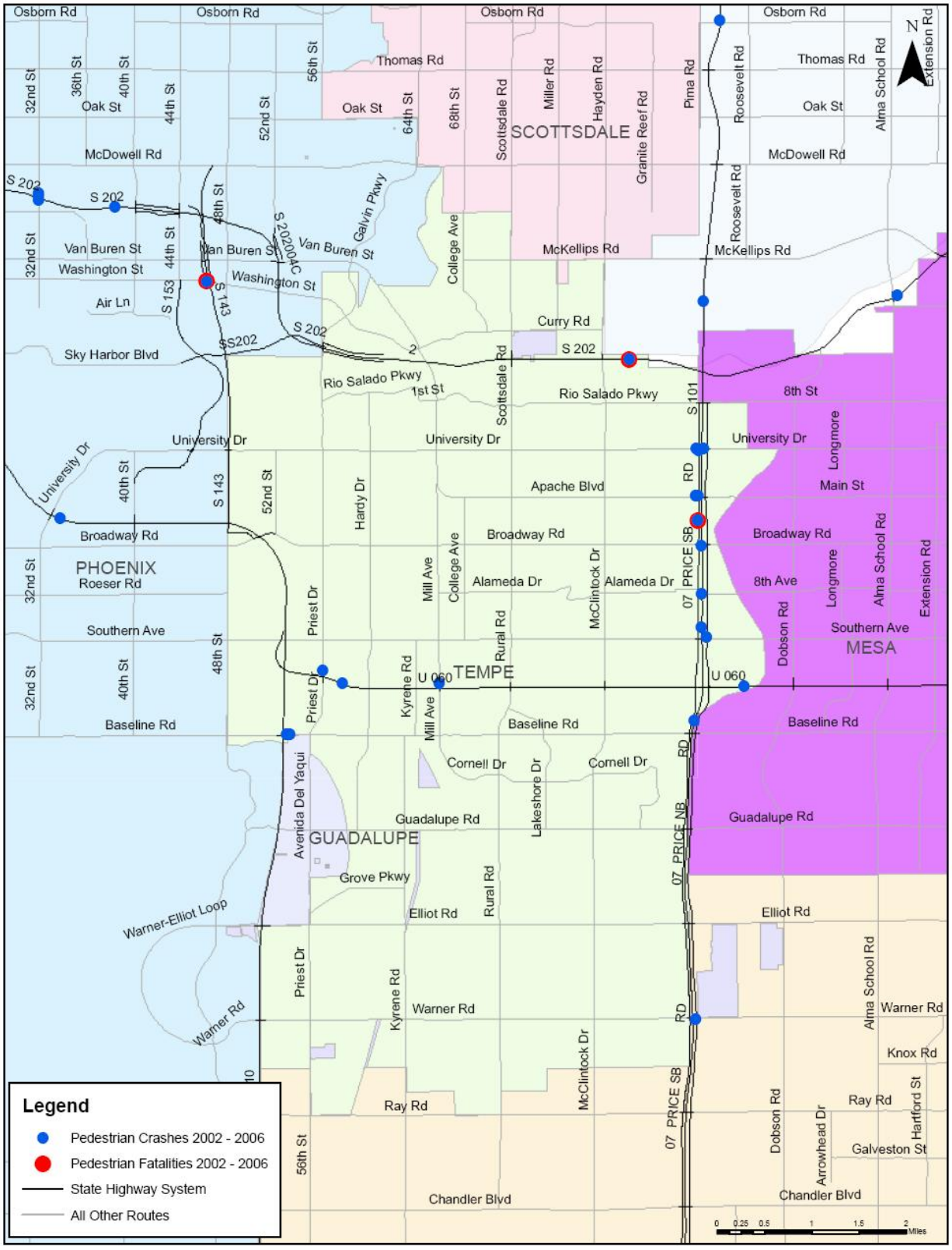
Specific Pedestrian Safety Concerns

6. ***Please describe, as specifically as possible, any pedestrian safety issues on or near the state highway system within or near your jurisdiction.***

Insights into issues at interchanges:

- Focus on people crossing at lesser streets (not arterials)
- They have received concerns from residential areas east of 101, south of University- they use Orange to cross - requests for stop control on frontage roads.
- Tempe has received calls about lack of bike lanes on frontage roads.
- At Priest and 202 – the stop bar for the off-ramp for 202 is beyond the sidewalk.

Exhibit A8 – Tempe, Location of State Highway Pedestrian Crashes, 2002 - 2006



Phoenix Metropolitan Area: Maricopa County

Focus Area Jurisdiction Interview Summary Notes

Interview Summary – Maricopa County

Date Produced	April 30, 2008
Interview Participants - Maricopa County	Peggy Rubach Brent Crowther, Kimley-Horn Mary Rodin, Kimley-Horn

Pedestrian Program Information

1. ***Does your jurisdiction/organization have a sidewalk inventory or another database with pedestrian infrastructure information?***

They have a GIS database with 6-7 years of past information to the present. In1999 bike and pedestrian information was reviewed when the Bicycle and Pedestrian Plan was updated. They were included in the Roadway Design Manual. More emphasis was placed on urban infrastructure, no longer a rural community.

The Roadway Design Manual was revised in 2001 (and again in 2004). Focus was on urban versus rural. New sidewalks were mandated in urban areas, and they can be observed in aerial photos.

2. ***Does your jurisdiction/agency collect any other pedestrian related data? This may include crashes, requests for pedestrian safety improvements, emails? etc. Who is the contact person?***

The County typically works off of ADOT crash data and do periodic queries. People will email or call when they want shoulders widened, and Peggy keeps track of those.

In 2006, MCDOT survey on Valley Metro website and entered data into an Excel spreadsheet. Over 2000 persons responded. The data was used in the Bicycle Transportation System Plan, which is a separate document that roles into the system plan

3. ***Does your jurisdiction/organization have any policies related to pedestrian facilities (e.g. accommodation or provision of pedestrian infrastructure, etc.)?***

The overall Comprehensive Plan (Maricopa 2020 Eye to the Future) is under revision and will have updated Transportation Systems Plan (updated last year). The revision will have a commitment to multimodal aspects (transit, pedestrian, and bicycles to meet MCDOT and AASHTO standards and documents.

4. ***Does your jurisdiction/organization have any community pedestrian-focused programs?***

   1) 2nd grade pedestrian safety education- 50 schools/year
   2) Advent of Safe Routes to School program. Received $37,770 in cycle 1 to begin in 23 schools (about $1,000 per school). The program will be implemented in fall and spring.

Pedestrian Funding Information

5. ***Please describe any funding sources and approximate amount per year that are used by your jurisdiction/organization to construct pedestrian improvements or that are currently identified for pedestrian improvements in a Capital / Transportation Improvement Program, or other initiatives such as Pedestrian Safety Education Programs, Pedestrian Safety Enforcement Programs, and Pedestrian Public Information Programs.***

- CMAQ and enhancements
- No CIP set aside- normally developer funded
- Funding pool for donations- "adopt a school" by Rotary
- Development permit fees
- Pedestrian safety education program- on-going commitment to do 50 1 hour programs
- Valley Metro wrote a 2-year grant for Safe Routes to School, institutionalize into school program education and healthcare

Specific Pedestrian Safety Concerns

6. ***Please describe, as specifically as possible, any pedestrian safety issues on or near the state highway system within or near your jurisdiction.***

Specific areas of pedestrian safety include:

- On-going with Beeline Highway improvements
- SR-74 over NW Valley
- Loop 303- to tie in west Valley cities, turned over to ADOT
- There are a great number of state highways that are main streets
- ADOT does not include bicycle improvements, so using the enhancement money for improvements
- More thought should be given to urban nature and to intersections of future transit- leave spaces for future right-of-way

City of Nogales

Focus Area Pedestrian Crash Analysis and Jurisdiction Interview Summary Notes

Ten pedestrian crashes occurred on state highways in the area within and surrounding Nogales between 2002 and 2006. These crashes occurred primarily on SB 19 and SR 189, as shown in **Exhibit A9**. The crashes included 2 fatality and 8 injury crashes.

Primary pedestrian concern is with train/ pedestrian crashes, rather than roadway–related pedestrian crashes. The streets are well lit. City of Nogales is working with the railroad on solutions to pedestrian safety problems, such as possibly putting a fence up so that people can't cross while the train is stopped within the City. Hundreds of persons wait for the trains on either side of the tracks.

Crash Characteristics

Key characteristics of the 10 pedestrian crashes are summarized as follows:

- Roadway Control – 9 out of the 10 crashes occurred on non-controlled access and the other one occurred on mainline.
- Pedestrian Action – The pedestrian action in a majority (58 percent) of the crashes was that the pedestrian was crossing the road.
- Driver Action – The drivers were reported as "Going Straight Ahead" in 80 percent of the crashes and "Making Left-Turn" in 20 percent of the crashes.
- Day Versus Night Crashes – The number of pedestrian crashes was evenly split between darkness and daylight conditions.
- Physical Condition of Pedestrian – 70 percent of the pedestrians were not under any apparent influence and the rest was unknown or not reported.
- Physical Condition of Driver – A majority of the drivers (90 percent) were not under any apparent influence while 10 percent had been drinking.
- Pedestrian Violation – Key violations by the pedestrians included Did Not Use Crosswalk (25 percent), Inattention (8 percent), and Failed to Yield Right-of-Way (8 percent).
- Driver Violation – 30 percent of the drivers had no improper driving. Major driver violations included Failed to Yield Right-of-Way (30 percent) and Inattention (30 percent).
- Age – 25 percent of pedestrians were in the 51 to 60 age bracket.
- Gender – 75 percent of the crashes involved a male pedestrian.

Interview Summary

Interview Date	4/24/2008
Interview Participants	John Kissinger

Pedestrian Program Information

1. ***Does your jurisdiction/organization have a sidewalk inventory or another database with pedestrian infrastructure information?***

No.

2. ***Does your jurisdiction/agency collect any other pedestrian related data? This may include crashes, requests for pedestrian safety improvements, emails? etc. Who is the contact person?***

Input is received through the Public Works Department

3. ***Does your jurisdiction/organization have any policies related to pedestrian facilities (e.g. accommodation or provision of pedestrian infrastructure, etc.)?***

None documented.

4. ***Does your jurisdiction/organization have any community pedestrian-focused programs?***

There is a program through the Police Department in the Schools. There is also a community-based program relating to the health benefits of walking.

Pedestrian Funding Information

5. ***Please describe any funding sources and approximate amount per year that are used by your jurisdiction/organization to construct pedestrian improvements or that are currently identified for pedestrian improvements in a Capital / Transportation Improvement Program, or other initiatives such as Pedestrian Safety Education Programs, Pedestrian Safety Enforcement Programs, and Pedestrian Public Information Programs.***

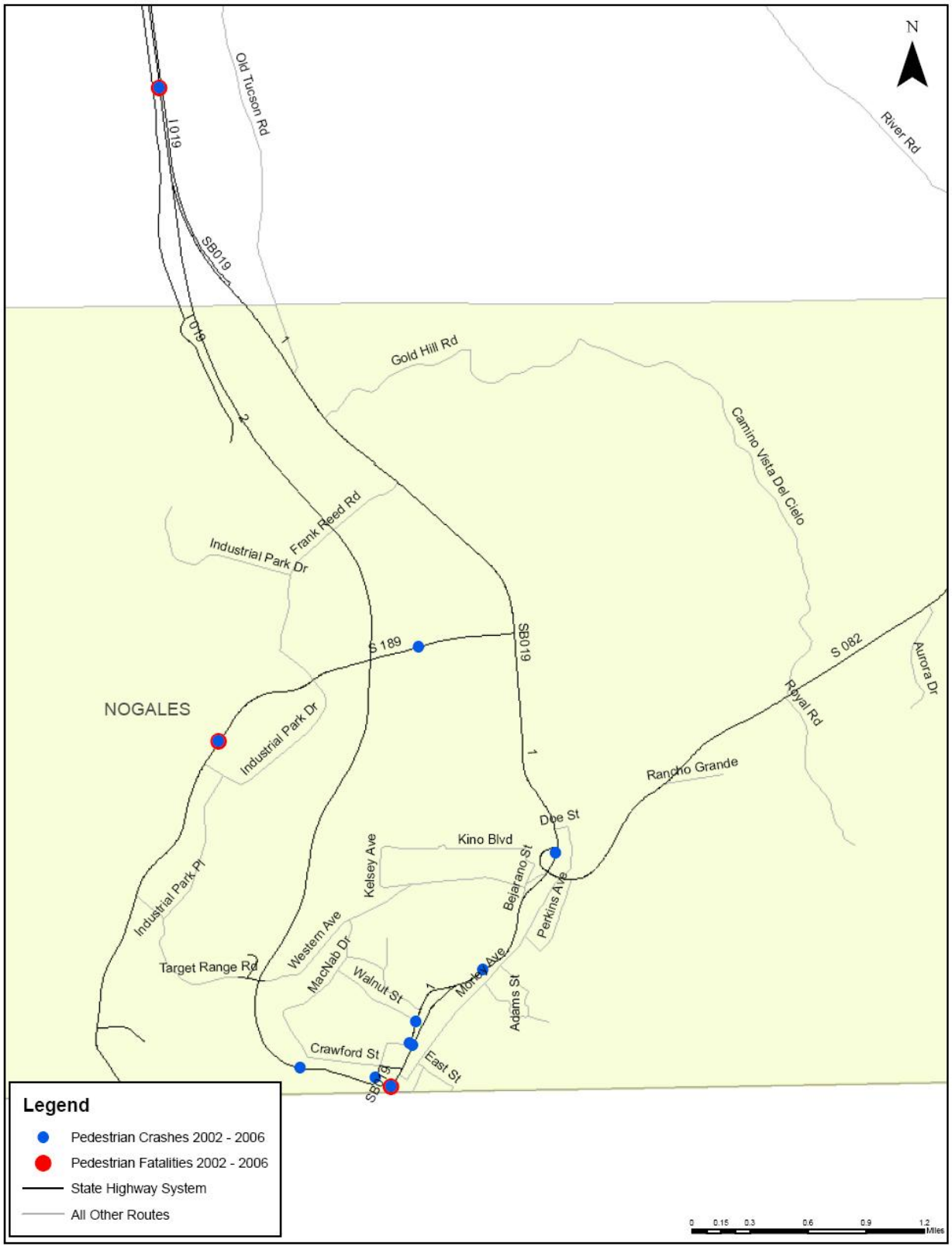
HURF funds are used for both street and sidewalk improvements.

Specific Pedestrian Safety Concerns

6. ***Please describe, as specifically as possible, any pedestrian safety issues on or near the state highway system within or near your jurisdiction.***

Main pedestrian concern is with train/ pedestrian crashes, rather than highway –related pedestrian crashes. The streets are well lit. They are working with the railroad on solutions to pedestrian safety problems, such as possibly putting a fence up so that people can't cross while the train is stopped through town. Hundreds of persons wait for the trains on either side of the tracks.

Exhibit A9 – Nogales, Location of State Highway Pedestrian Crashes, 2002 - 2006



City of Sedona

Focus Area Pedestrian Crash Analysis and Jurisdiction Interview Summary Notes

Thirteen pedestrian crashes occurred on state highways in the area within and surrounding Sedona between 2002 and 2006. These crashes occurred primarily on SA 89, as shown in **Exhibit A10**. The crashes included 3 fatality and 9 injury crashes. A high percentage of crashes involved alcohol.

A SR-89A project committee has developed several policy recommendations regarding pedestrian safety along SR-89A, the most important two being targeted lighting and design barrier system from Soldier Pass Road to Dry Creek Road to direct pedestrians to safer routes. Other issues that will be addressed include reducing speeds and increasing enforcement.

There are few pedestrian crashes along SR-179 because there are few sidewalks to attract pedestrians. The majority of SR-179 is rural and residential in nature.

Crash Characteristics

Key characteristics of the 13 pedestrian crashes are summarized as follows:

- Roadway Control – 92 percent of the crashes occurred on non-controlled access and 8 percent occurred on mainline.
- Pedestrian Action – The pedestrian action in 54 percent of the crashes was that the pedestrian was crossing the road, along with walking against traffic (8 percent), and the remainder was other or unknown.
- Driver Action – The drivers were reported as "Going Straight Ahead" in 54 percent of the crashes, "Making Right-Turn" and "Left-Turn" in 15 percent of the crashes, respectively, "Leaving Driveway" in 8 percent of the crashes, and "Backing" in 8 percent of the crashes.
- Day Versus Night Crashes – 54 percent of the crashes occurred in darkness and 46 percent occurred during daylight hours.
- Physical Condition of Pedestrian – 38 percent of the pedestrians had been drinking, 23 percent were not under any apparent influence, and the rest was not reported or unknown.
- Physical Condition of Driver – A majority of the drivers (77 percent) were not under any apparent influence, 8 percent had been drinking, and the remainder was unknown.
- Pedestrian Violation – Key violations by the pedestrians included Did Not Use Crosswalk (23 percent), Inattention (8 percent), and Disregarded Traffic Signal (8 percent), and Walking against Traffic (8 percent).
- Driver Violation – 46 percent of the drivers had no improper driving. Major driver violations included Failed to Yield Right-of-Way (31 percent), Speed Too Fast for Conditions (8 percent), and Inattention (8 percent).
- Age – The highest percentage of pedestrians (31 percent) was in the 41 to 50 age bracket.
- Gender – 69 percent of the crashes involved a male pedestrian.

Interview Summary

Interview Date	April 16, 2008
Interview Participants	Eric Levitt, City of Sedona Brent Crowther, Kimley-Horn Mary Rodin, Kimley-Horn Adria Henderson, Kimley-Horn

Pedestrian Program Information

1. ***Does your jurisdiction/organization have a sidewalk inventory or another database with pedestrian infrastructure information?***

The City does have a sidewalk inventory for ADA purposes. SR-89A has sidewalks along the entire route. SR-179 does not currently have sidewalks, but will have sidewalks along the entire route at the end of the construction for improvements.

2. ***Does your jurisdiction/agency collect any other pedestrian related data? This may include crashes, requests for pedestrian safety improvements, emails? etc. Who is the contact person?***

There is data on the number of pedestrian crossing in the daytime, but no nighttime data.

The City also has data from FHWA reports that will be attached in the Committee Policy Recommendation Report.

3. ***Does your jurisdiction/organization have any policies related to pedestrian facilities (e.g. accommodation or provision of pedestrian infrastructure, etc.)?***

The City has a Design Review Board that decides on a case-by-case basis whether sidewalks are needed in new developments. The City encourages infill development and as a result promotes sidewalk construction that is near commercial areas (where sidewalks are almost always required), in high pedestrian traffic areas, and if the sidewalks connect to existing sidewalks. The design review process also bases the approval for sidewalks on the character of the area where the sidewalk is being proposed. In urban areas, a sidewalk with curb and gutter is appropriate, but it may not be in the rural areas.

The City has problems implementing pedestrian facilities in older neighborhoods where the setbacks are small and the homes are almost on the street. Constructing sidewalks in these areas means narrowing the road, which reduces the available parking space, and also takes almost one-third of people's yard space.

The City's goal is to increase the number of sidewalks.

4. ***Does your jurisdiction/organization have any community pedestrian-focused programs?***

The City has a mature and developed urban trail system and the Verde Valley Cycle Coalition, which focuses more on cycling facility issues rather than pedestrian ones.

Pedestrian Funding Information

5. ***Please describe any funding sources and approximate amount per year that are used by your jurisdiction/organization to construct pedestrian improvements or that are currently identified for pedestrian improvements in a Capital / Transportation Improvement Program, or other initiatives such as Pedestrian Safety Education Programs, Pedestrian Safety Enforcement Programs, and Pedestrian Public Information Programs.***

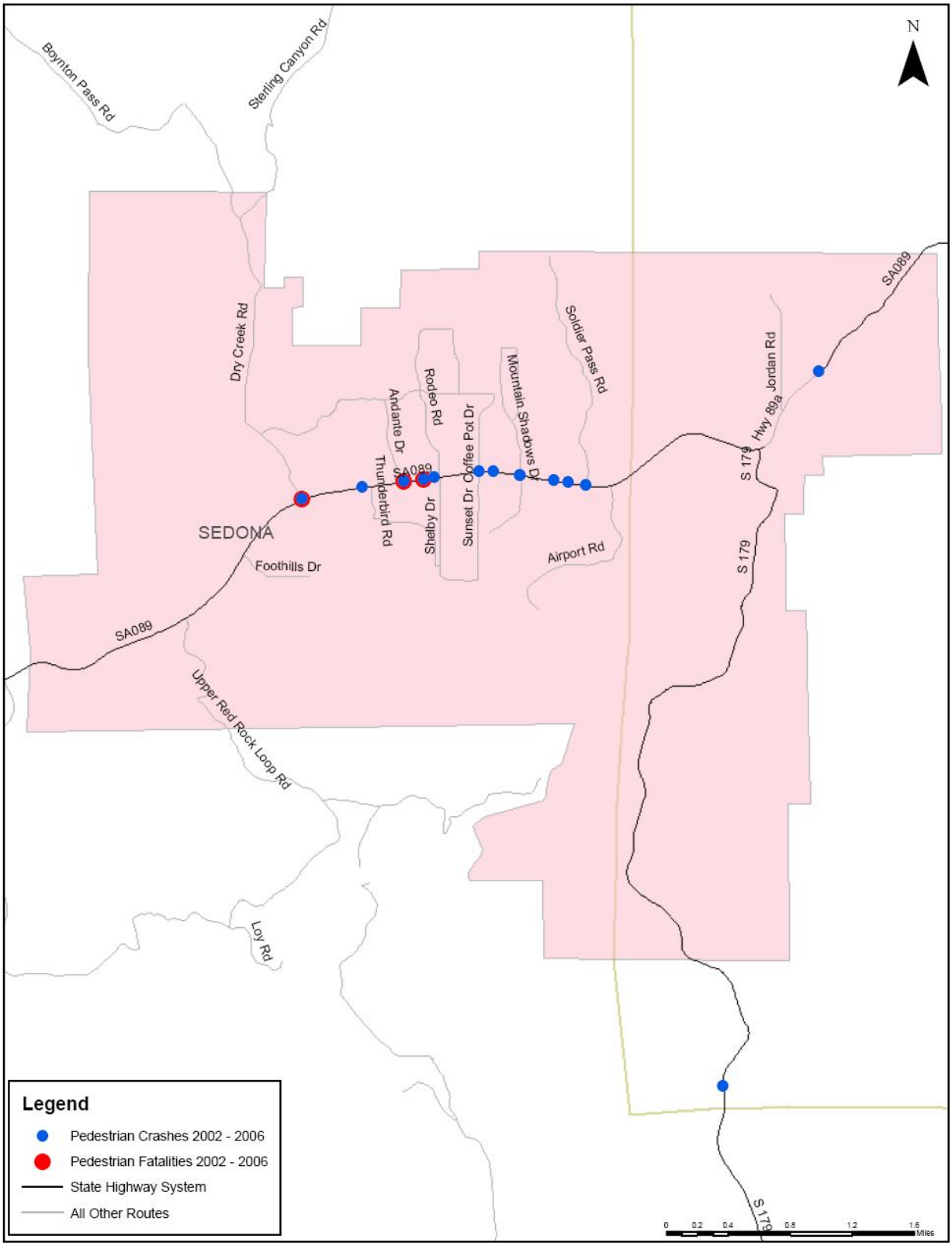
Funding for pedestrian improvements comes from development impact fees, grants, and community facility districts.

Specific Pedestrian Safety Concerns

6. ***Please describe, as specifically as possible, any pedestrian safety issues on or near the state highway system within or near your jurisdiction.***

There are few pedestrians along SR-179 because it is dangerous due to its lack of pedestrian facilities. This will hopefully change when the new sidewalks are in place along the entire corridor.

Exhibit A10 – Sedona, Location of State Highway Pedestrian Crashes, 2002 – 2006



City of Tucson

Focus Area Pedestrian Crash Analysis and Jurisdiction Interview Summary Notes

Sixty crashes occurred on state highways in the Tucson urbanized area between 2002 and 2006. The urbanized area is as defined by the U.S. Census Bureau. These crashes occurred primarily on SR 77, I 10, and SR 86, as shown in **Exhibit A11**. The crashes included 5 fatalities.

Crash Characteristics

Key characteristics of the sixty pedestrian crashes are summarized as follows:

- Roadway Control – 88 percent of the crashes occurred on non-controlled access, 7 percent occurred on mainline, 3 percent occurred on frontage road.
- Pedestrian Action – 65 percent of the pedestrians were crossing the road, 6 percent were walking with or against traffic.
- Driver Action – The drivers were going straight ahead in 57 percent of the crashes, making right-turn and left-turn in 11 percent and 16 percent of the crashes, respectively, avoiding vehicle, objects, etc in 6 percent of the crashes.
- Day Versus Night Crashes –47 percent occurred in darkness.
- Physical Condition of Pedestrian – 12 percent had been drinking, 2 percent were under the influence of drugs, and the remainder was unknown or not reported.
- Physical Condition of Driver –3 percent had been drinking, and the rest was unknown.
- Pedestrian Violation – Key violations by the pedestrians included Did Not Use Crosswalk (28 percent), Failed to Yield Right-of-Way (12 percent), Disregarded Traffic Signal (5 percent), and Inattention (11 percent).
- Driver Violation – Major driver violations included Failed to Yield Right-of-Way (22 percent), Speed Too Fast for Conditions (5 percent), Other Unsafe Passing (2 percent), and Inattention (5 percent).
- Age – The highest percentage of pedestrians (18 percent) was in the 41 to 50 age bracket.
- Gender – 64 percent of the crashes involved a male pedestrian.

Interview Summary

Interview Date	4/23/2008
Interview Participants	Richard Nassi, City of Tucson Brent Crowther, Kimley-Horn Mary Rodin, Kimley-Horn

Pedestrian Program Information

1. ***Does your jurisdiction/organization have a sidewalk inventory or another database with pedestrian infrastructure information?***

- Sidewalk inventory conducted by PAG.
- Safe Routes to School program also provides information
- The sidewalk inventory is reasonably up-to-date.

2. ***Does your jurisdiction/agency collect any other pedestrian related data? This may include crashes, requests for pedestrian safety improvements, emails? etc. Who is the contact person?***

- There is a geo-coded database that was used for PAG analysis for the ½ cent sales tax.
- It contains pedestrian crash data points
- The City has a working document, which is a city map showing red circles for fatal pedestrian crash locations.

Specific Pedestrian Safety Concerns

3. ***Please describe, as specifically as possible, any pedestrian safety issues on or near the state highway system within or near your jurisdiction.***

On Oracle Road, a number of changes were implemented:

- Signal timings were changed from 90 to 120 seconds to allow full pedestrian crossings.
- Slowed the assumption on walking speeds between River Road and Grant Road to 4 feet per second.
- All school crossings assumed 3.5 feet per seconds.
- Oracle Road is now fully illuminated.

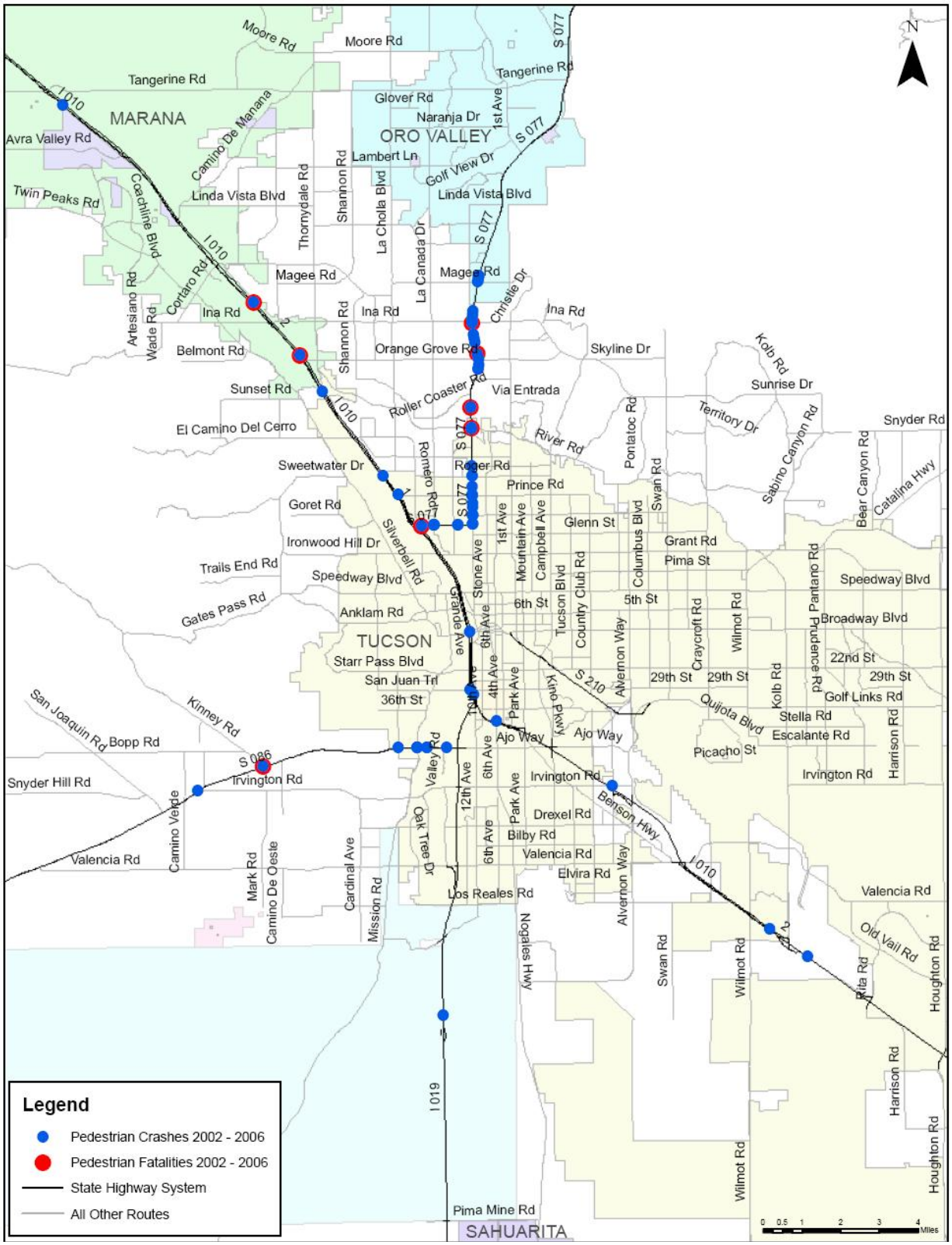
On Oracle Road, there are living areas on the east side of the street and shopping on the west side of the street, leading to more pedestrian crossings.

There are socioeconomic factors regarding some of the pedestrian activities, such as alcohol and drug use.

On SR 86, some pedestrian crashes were at school crossings. At Freedom Drive there is a HAWK crossing now.

On Mission Road, three young men were crossing to reach a liquor store. There was alcohol involvement by the pedestrian.

Exhibit A11 – Tucson, Location of State Highway Pedestrian Crashes, 2002 – 2006



City of Yuma

Focus Area Pedestrian Crash Analysis and Jurisdiction Interview Summary Notes

Thirty-three pedestrian crashes occurred on state highways in the City of Yuma between 2002 and 2006. These crashes occurred primarily on SR 8 and US 95, as shown in **Exhibit A11**. The crashes included 3 fatality and 27 injury crashes.

Crash Characteristics

Key characteristics of the 33 pedestrian crashes are summarized as follows:

- Roadway Control – 94 percent of the crashes occurred on non-controlled access and 6 percent occurred on mainline.
- Pedestrian Action – 73 percent of the pedestrians were crossing the road, 3 percent were walking traffic, and 3 percent were standing. The remainder was other or unknown.
- Driver Action – The drivers were going straight ahead in 52 percent of the crashes, making right-turn and left-turn in 27 percent and 12 percent of the crashes, respectively, avoiding vehicle, objects, etc in 3 percent of the crashes, and leaving driveway in 3 percent of the crashes.
- Day Versus Night Crashes – 42 percent of the crashes occurred in darkness, 55 percent occurred during daylight hours, and 3 percent occurred in dawn or dusk.
- Physical Condition of Pedestrian – 67 percent of the pedestrians were not under any apparent influence, 15 percent had been drinking, 3 percent were under the influence of drugs, and the remainder was unknown.
- Physical Condition of Driver – 67 percent of the drivers were not under any apparent influence, 9 percent had been drinking, and the rest was unknown.
- Pedestrian Violation – Key violations by the pedestrians included Did Not Use Crosswalk (21 percent), Failed to Yield Right-of-Way (3 percent), Disregarded Traffic Signal (9 percent), Walking against Traffic (3 percent), and Inattention (12 percent). The remainder was other or unknown.
- Driver Violation – 27 percent of the drivers had no improper driving. Major driver violations included Failed to Yield Right-of-Way (15 percent), Speed Too Fast for Conditions (15 percent), Inattention (15 percent), and Exceeded Lawful Speed (3 percent). The remainder was other or unknown.
- Age – The highest percentage of pedestrians (30 percent) was in the 31 to 40 age bracket.
- Gender – 70 percent of the crashes involved a male pedestrian.

Interview Summary

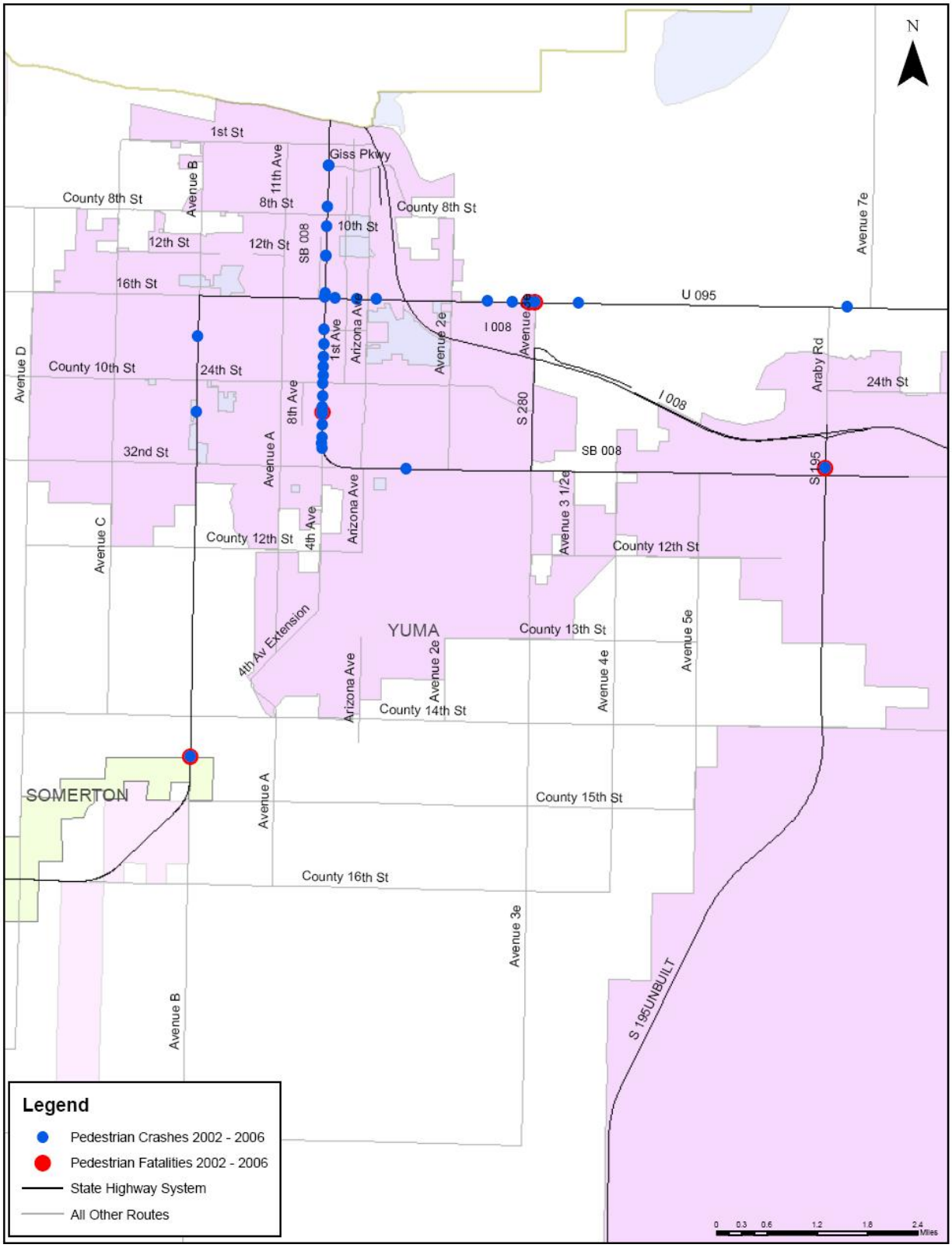
Interview Date	4/24/2008
Interview Participants	Fred Orcutt, City Traffic Engineer Brent Crowther Mary Rodin

A written survey was submitted by City of Yuma. The following are discussion points identified by City of Yuma during a telephone interview.

The state highways in Yuma will be turned back to the City in 2 years. Some considerations with respect to pedestrian needs are:

- At U.S. 95 and Yuma Palms Parkway- Sunridge Drive (MP 24.63), the crosswalk across US 95 is very long, requiring long cycles and pedestrian clearances. Pedestrians are light but continual.
- There is a general need to move sidewalks back from the streets.
- Median improvements on 4th Avenue (Business 8) are proposed in 15-20 years.
- The City has begun using channelized right turn lanes to shorten pedestrian crossing distances (using pork chop islands).
- Araby Road / 32nd Street - the fatality at this location was actually a mid-block crash.
- At SR 95 and Avenue 3E, an area with two fatal crashes, there is a bar in the vicinity and people park at the opposite side of the street.
- On 4th Avenue, between 32nd Street and 16th Street there are constant but light pedestrian volumes. There are activity centers in this area and sidewalks are close to the road.
- Avenue A lighting is spotty – uniformity level could be increased.
- There are more pedestrians on 4th Avenue (Business 8), north of 16th Street. There are more homeless persons there and the library is near there.
- At Giss Parkway/3rd Street/4th Avenue (Business 8) – this is the a high pedestrian activity location.

Exhibit A11 – Yuma, Location of State Highway Pedestrian Crashes, 2002 – 2006



APPENDIX B – FOCUS TRIBAL COMMUNITY PEDESTRIAN CRASH MAPS

Exhibit B1 – Tohono O'odham Nation, Location of State Highway Pedestrian Crashes, 2002 – 2006

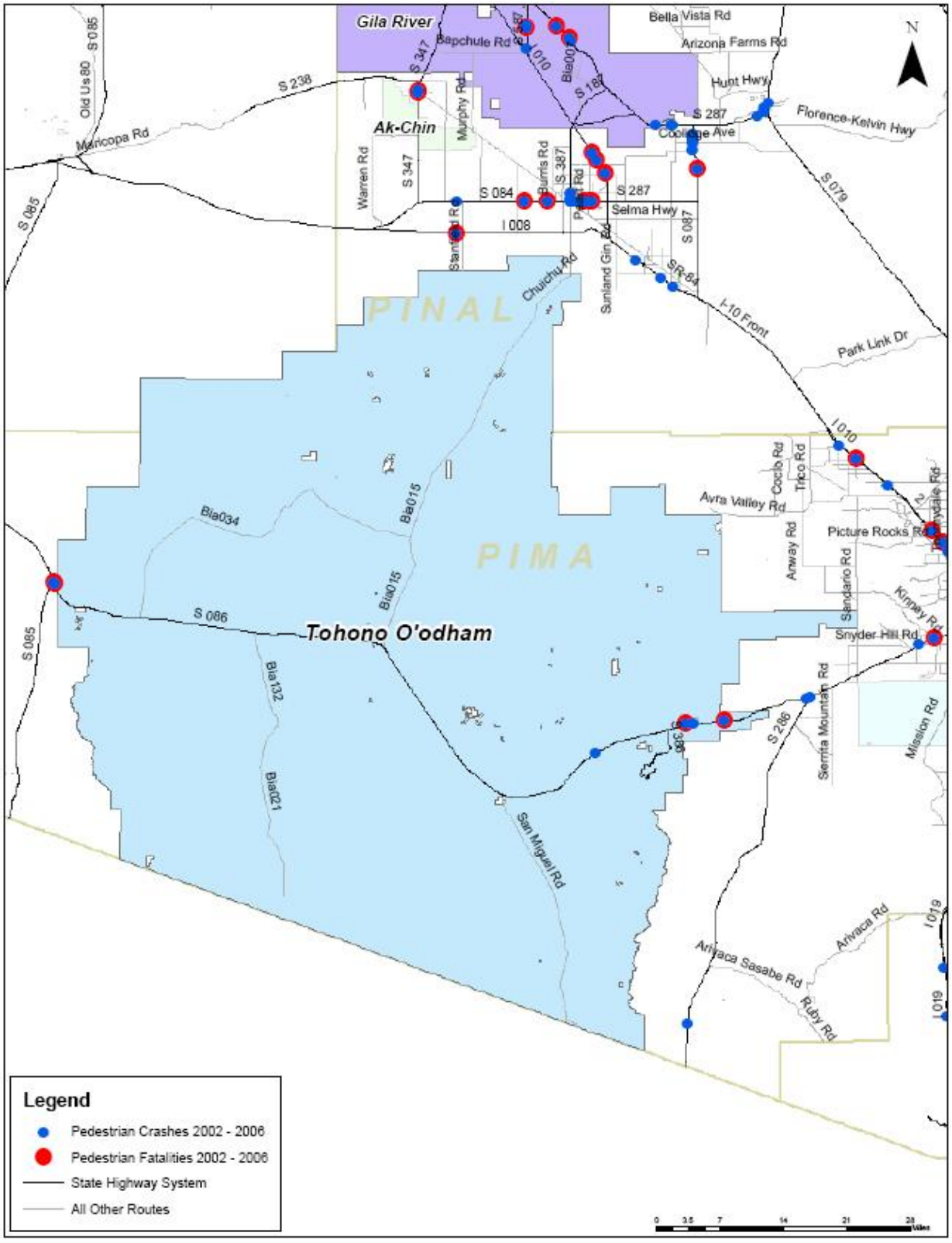


Exhibit B2 – White Mountain Apache and San Carlos Apache Tribes, Location of State Highway Pedestrian Crashes, 2002 – 2006

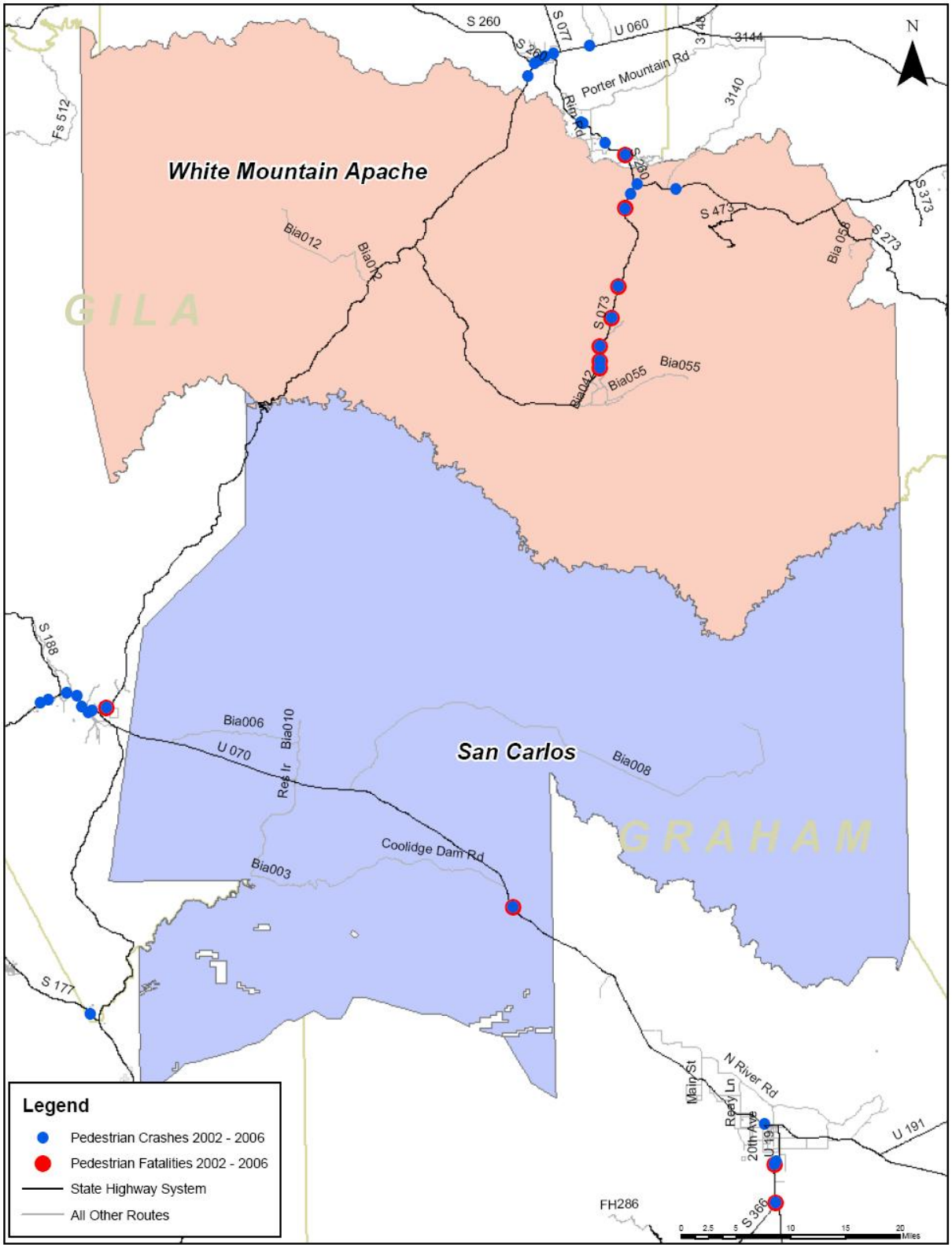


Exhibit B3 – Navajo Nation and Hopi Tribe, Location of State Highway Pedestrian Crashes, 2002 – 2006

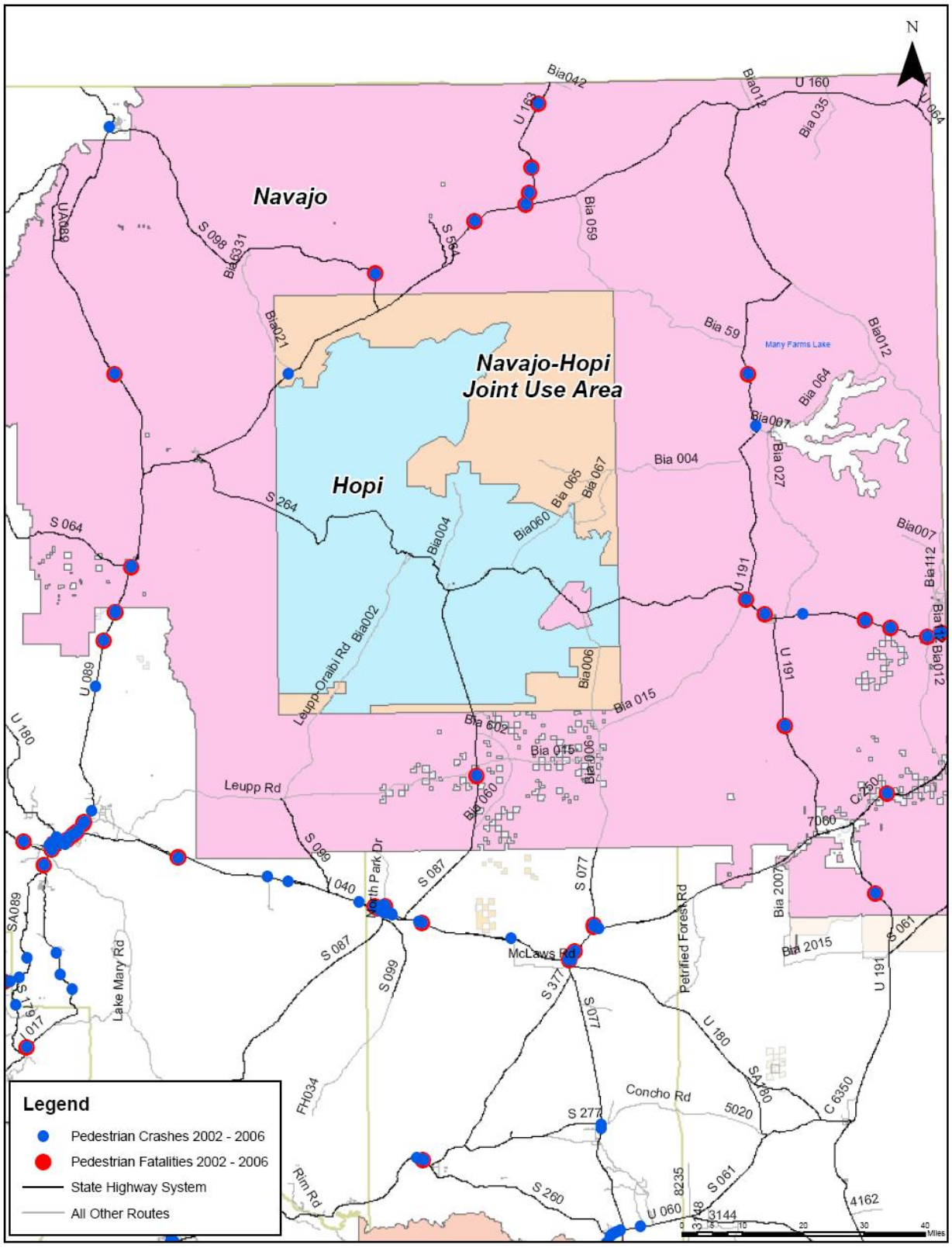
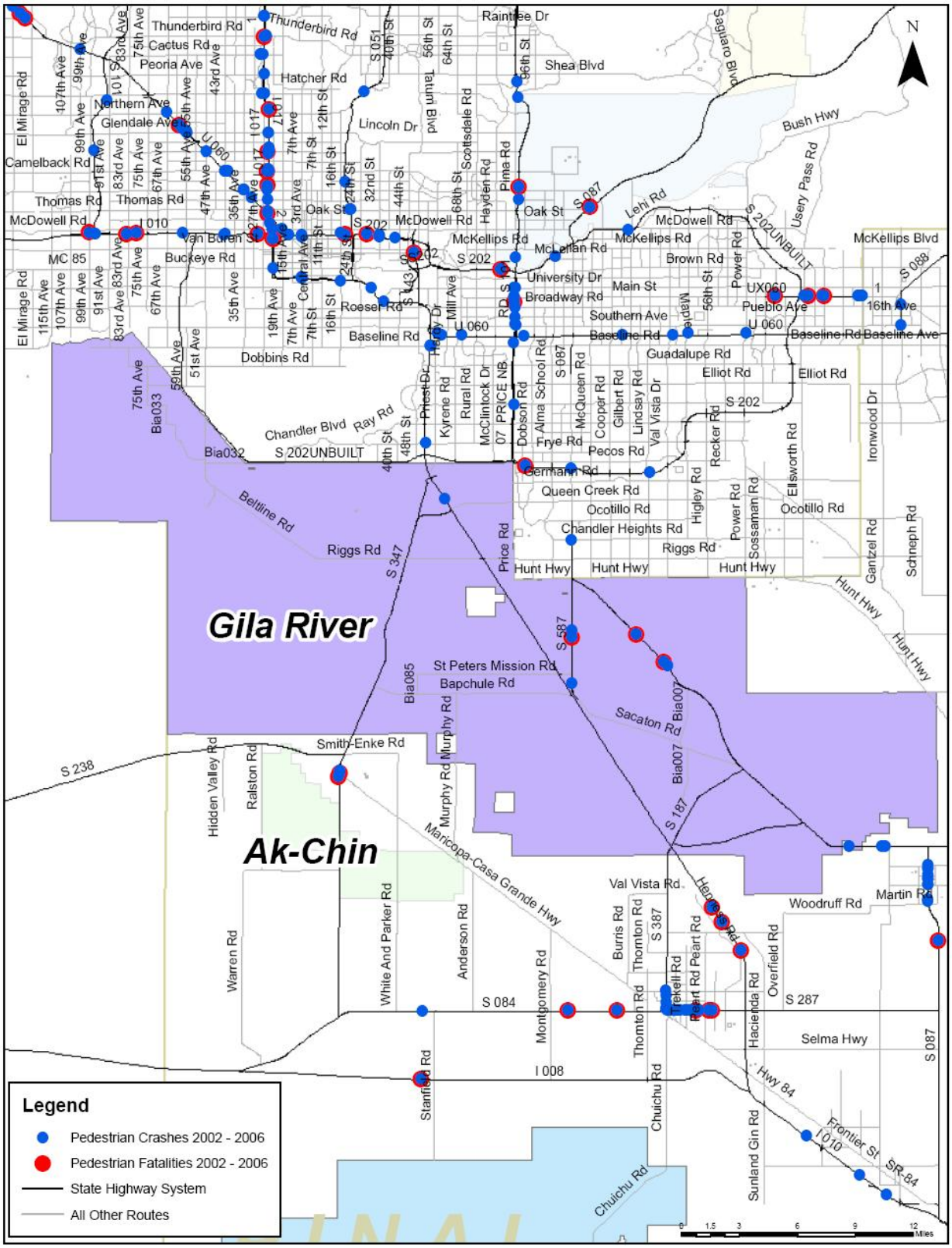


Exhibit B4 – Gila River Indian Community, Location of State Highway Pedestrian Crashes, 2002 – 2006



APPENDIX C– SURVEY FORMS

C.1 Survey Form for the General Public

ADOT Pedestrian Safety Action Plan Survey (General Public)

1. Voluntary Information

NOTE: Completion of the personal information below is completely voluntary. At a minimum, we would appreciate you providing your city and zip code information. Under state law, any identifying information provided below will become part of the public record and, as such, must be released to any individual upon request.

Name:

Mailing Address:

City:

State:

Zip Code:

Telephone:

Email:

Age (approximate):

Gender: [Male] for [Female]

2. Do you walk on, along side or cross any roads on the State Highway System? State Highways are roads that are maintained by the Arizona Department of Transportation (ADOT) and are numbered as SR-89, SR-87, SR-77, SR-79, US 60, US 95, US 89, etc. For more information on which roads are maintained by the Arizona Department of Transportation, please visit ADOT's website for maps showing ADOT maintained roads and mileposts (http://tpd.azdot.gov/gis/maps/pdf/Section%20Three.pdf).

◯ No. Please skip to question #8.

◯ Yes. Please comment below

Please list the state highway roads that you walk on, along or cross

3. If you answered yes to question #2, how often do you walk on, alongside or cross the state highway roads (please count each round trip as one trip)? Please check the most appropriate response. Do you:

◯ Walk at least daily.

◯ Walk at least once or more per week, but less than once per day.

◯ Walk at least once or more per month, but less than once per week.

◯ Walk very rarely.

ADOT Pedestrian Safety Action Plan Survey (General Public)

4. If you answered yes to question #2, on average, approximately how far do you walk when you walk on, alongside, or cross the state highway roads? Please check one box that represents a typical walking trip.

- ◯ 1/4 mile or less (several blocks or less)
- ◯ Between 1/4 mile and 1 mile
- ◯ Between 1 and 2 miles
- ◯ More than 2 miles
- ◯ I simply cross the state highway

5. If you answered yes to question #2, what is the purpose of your walking trips on the state highway roads? Please check all boxes that are applicable.

- ☐ Work
- ☐ School
- ☐ Errands
- ☐ Social
- ☐ Recreation/Exercise
- ☐ Other (please describe below)

6. If you checked work in question #5, how far do you live from your work?

- ◯ 0-1 mile
- ◯ 1-2 miles
- ◯ 2-5 miles
- ◯ 6-10 miles
- ◯ 11 or more miles

7. If you checked school in question #5, how far do you live from your school?

- ◯ 0-1 mile
- ◯ 1-2 miles
- ◯ 2-5 miles
- ◯ 6-10 miles
- ◯ 11 or more miles

ADOT Pedestrian Safety Action Plan Survey (General Public)

8. If you answered NO in question #2, (you don't walk) why don't you walk on, alongside or cross the state highway roads? Please check the top three reasons that you don't walk or don't walk more often to reach your destination.

- [ ] Concerns about safety
- [ ] Lack of walkways (e.g. sidewalks/multiuse paths/trails/shoulders) to walk on
- [ ] Vegetation too high
- [ ] Weather
- [ ] No lighting/Too dark
- [ ] Destination too far
- [ ] Other (Please list and describe any other reasons)

9. Are you aware of any specific pedestrian safety issues on the state highway roads within or near your community, town, or city? Please describe as specifically as possible, including mileposts, landmarks, or intersections as appropriate. Refer to ADOT's website for maps showing ADOT maintained roads and mileposts. ADOT State Highway System Maps

ADOT Pedestrian Safety Action Plan Survey (General Public)

10. The ADOT Pedestrian Safety Action Plan may result in recommendations for improvements to pedestrian improvement projects on state highways. Which of the following should be used to prioritize the construction of pedestrian improvement projects on the state highway roads? Please check three.

- [ ] Safety- address locations where pedestrian crashes have occurred
- [ ] Safety- address locations where pedestrian crashes are likely to occur
- [ ] Complete missing pieces of sidewalk- create longer continuous sidewalks
- [ ] Attracts the most users- build facilities that will serve the most users
- [ ] Connections- facilitate pedestrian travel to shopping, restaurants, and other services
- [ ] Equity- spend equally in various regions of the state
- [ ] Transit- increase easy walking to transit
- [ ] Schools- build projects near schools and that access school bus stops
- [ ] Maintenance- maintain existing sidewalks and paths
- [ ] Other factors you would like to see considered (Please describe below)

Thank you for your input

C.2 Public Agency Survey

2. Does your jurisdiction/organization have a sidewalk inventory or another database with pedestrian infrastructure information?

Please submit any available information or documents via fax (520-615-9191), email (brent.crowther@kimley-horn.com), mail (see contact information above) or to the pedestrian survey ftp site.

- ◯ No
- ◯ Yes (Please describe and provide as applicable/available. Include contact person).

Please describe below

3. Does your jurisdiction/agency collect any other pedestrian related data? This may include crashes, requests for pedestrian safety improvements, etc.

Please submit any available information or documents via fax (520-615-9191), email (brent.crowther@kimley-horn.com), mail (see contact information above) or to the pedestrian survey ftp site.

- ◯ No
- ◯ Yes (Please describe and provide any available information). Please identify contact person.

Please describe below

4. Does your jurisdiction/organization have any policies related to pedestrian facilities (e.g. accommodation or provision of pedestrian infrastructure, etc.)?

Please submit any available information or documents via fax (520-615-9191), email (brent.crowther@kimley-horn.com), mail (see contact information above) or to the pedestrian survey ftp site.

- ◯ No
- ◯ Yes (Please list, and describe. Please include contact person).

Please describe or list below

5. Does your jurisdiction/organization have any community pedestrian-focused programs? Please check the boxes for all programs that apply.

Please submit any available information or documents via fax (520-615-9191), email (brent.crowther@kimley-horn.com), mail (see contact information above) or to the pedestrian survey ftp site

- ☐ Pedestrian Safety Initiatives

- [ ] Pedestrian Safety Education in Schools
- [ ] Pedestrian Safety Enforcement Programs
- [ ] Pedestrian Public Information Programs
- [ ] None

6. Please describe any funding sources and approximate amount per year that are used by your jurisdiction/organization to construct pedestrian improvements or that are currently identified for pedestrian improvements in a Capital/Transportation Improvement Program, or other initiatives such as Pedestrian Safety Education Programs, Pedestrian Safety Enforcement Programs, and Pedestrian Public Information Programs.

Please submit any available information or documents via fax (520-615-9191), email (brent.crowther@kimley-horn.com), mail (see contact information above) or to the pedestrian survey ftp site.

7. Please describe, as specifically as possible, any pedestrian safety issues on or near the state highway system within or near your jurisdiction. Please include a detailed description of the location of the issue, including mileposts or intersections, and the nature of the concern. Please note all intersection related pedestrian crashes, even if the crashes have occurred on the local streets and not the state highway. For reference purposes, a map of the State Highways System can be found at AZDOT.gov.

Please feel free to mark-up the maps and identify specific areas of concern, and submit the marked-up maps and any other available information or documents via fax (520-615-9191), email (brent.crowther@kimley-horn.com), mail (see contact information above) or to the pedestrian survey ftp site.